

INSTALLATION RESTORATION PROGRAM

FINAL REMEDIAL INVESTIGATION REPORT

VOLUME IV: APPENDICES J - O

ALPENA COMBAT READINESS TRAINING CENTER
ALPENA COUNTY REGIONAL AIRPORT, MICHIGAN AIR NATIONAL GUARD
ALPENA, MICHIGAN

JUNE 1995



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HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM
Environmental Restoration and Waste Management Programs
Oak Ridge, Tennessee 37831-7606
managed by MARTIN MARIETTA ENERGY SYSTEMS, INC.
for the U.S. DEPARTMENT OF ENERGY under contract DE-AC05-84OR21400

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13. ABSTRACT (Maximum 200 words) Remedial Investigation Report of Sites 1-9 at Alpena CRTC, Alpena MI. Volume IV Appendices J-O. A remedial investigation was performed on 9 sites at the Alpena CRTC to determine the extent of contamination at the sites. The sites involved in this investigation include: Site 1 POL Storage Area; Site 2 Motor Pool Area; Site 3 Former Garage; Site 4 Third Fire Training Area; Site 5 Second Fire Training Area; Site 6 Former Landfill; Site 7 First Fire Training Area; Site 8 Former Hanger 9; Site 10 Hazardous Waste Storage Area. Soil and groundwater contamination above state action levels was found at the sites. An FS has been initiated.				
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**REMEDIAL INVESTIGATION REPORT
ALPENA COMBAT READINESS TRAINING CENTER
MICHIGAN AIR NATIONAL GUARD
ALPENA, MICHIGAN**

Volume IV

Appendix

- J PARCC QA/QC Analysis
- K Laboratory Data Validation
- L Analytical Results; Site 5 Soils Data (Collected 1991 and 1993) and RI Laboratory Data
- M Facility-wide Soil and Groundwater Background Determination Data
- N Analytical Results; Round 3 Groundwater and Background Soil Sampling Fixed Base Laboratory Data Summary
- O Analytical Results; SI Fixed Base Laboratory Data Summary

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Appendix J: PARCC QA/QC Analysis

Original

J.1 Introduction

A standardized QA/QC program was followed during the RI at the Alpena CRTC to ensure that analytical results accurately represent the environmental conditions at the sites. The RI was conducted using the HAZWRAP Level C (i.e., U.S. EPA Level III) QC requirements described in Requirements For Quality Control Of Analytical Data (DOE/HWP-65/R1, July 1990) and the guidelines and specifications described in the RI Work Plan.

The numbers of soil samples collected and selected laboratory QC (i.e., matrix spikes and duplicates) samples analyzed are summarized in Table J-1. The QC checks and results are summarized below.

J.1.1 Data Quality Objectives

Data Quality Objectives are qualitative and quantitative statements developed by data users to specify the quality of data obtained from field and laboratory data collection activities to support specific decisions or regulatory actions. DQOs also establish numeric limits for the data to allow the data user to determine if the data collected are of sufficient quality for use in their intended application. The data collected during the RI field effort will be used to develop a risk evaluation and recommendations for (1) developing and implementing an immediate response plan if required, (2) taking no further action and preparing a Decision Document, (3) initiating focused feasibility study and remedial measure, or (4) proceeding with the feasibility study. The following sections summarize the DQOs for PARCC obtained during the RI.

J.1.1.1 Precision

Precision refers to the level of agreement among repeated measurements of the same characteristic, under a given set of conditions. Precision is expressed quantitatively as the measure of the variability of a group of measurements compared to their average value. Precision was defined as the reproducibility, or degree of agreement, among replicate measurements of the same quantity. For this project, the precision of the analytical and instrument measurement system was assessed through the collection and analysis of field duplicate samples and the performance of analytical replicates. The closer the numerical values of the measurements are to each other, the more precise the measurement. Analytical precision was expressed as the percentage of the difference between results of duplicate samples for a given compound or element. Relative percent difference (RPD) was calculated as:

$$RPD = \frac{Abs(C_1 - C_2)}{\frac{C_1 + C_2}{2}} \times 100$$

**Table J-1 Summary of Analytical Program
MIANG, Alpena CRTC, Alpena, Michigan**

Sample Source	VOC SW5030/8010 & 8020 ¹	SVOC CLP 3/90 (10/92) ²	Priority Pollutant Metals SW-846	Hexavalent Chromium SW-846-7196 A	TPH 418.1
Soil	72	72	72	69	72
Sediment	37	37	37	9	37
Water	75	75	75	0	75
Total	184	184	184	78	184
Field Duplicates	9 _{soil} 5 _{Sed} 7 _{Water}	9 5 7	9 5 7	9 5 0	9 1 7
Trip Blanks	27				
Equipment Rinseates	19	20	19	0	19
Field Blanks	7	7	7	0	7

- NOTES: 1. Second column confirmation was performed for those samples containing compounds greater than detection levels.
2. Groundwater samples analyzed under CLP 10/92 statement of work for low concentration water.
3. Filtered and unfiltered water samples were collected

Where;

- C_1 = Concentration of the compound or element in the sample
- C_2 = Concentration of the compound or element in the duplicate/replicate.

Precision was determined using MS/MSD and duplicate sample analyses conducted on samples collected for VOC, SVOC, PPM, and TPH analysis during the Alpena CRTC RI. The laboratory selected 1 sample in 20 and split the sample into 2 additional aliquots. MS/MSD samples were prepared by routinely screening the first aliquot for the parameters of interest before analysis, while the remaining two aliquots were spiked with known quantities of parameters of interest before analysis. The RPD between the spike results was calculated and used as an indication of the analytical precision for the VOC, SVOC, and TPH analyses performed. Duplicate samples for PPM analyses were prepared by subdividing 1 sample of every 20 samples received and analyzing both samples of the duplicate pair. The RPD between the two detected concentrations was calculated and used as an indication of the analytical precision for the analyses performed. The objectives for precision are to have 90 percent of the values calculated within the specified RPD range of 20 percent.

Ten of 416 RPD water and 20 of 329 soil values calculated from the VOC analyses exceeded control limits of 20% for analytical precision. Control limits for VOC matrix spike and matrix spike duplicates are detailed in Table J-2 and J-3. Seventeen of 77 soil RPD values calculated from the SVOC analyses exceeded control limits of $\pm 20\%$ for analytical precision. Control limits for SVOC MS/MSD are detailed in Table J-4 and J-5. The 10/92 CLP SVOC SOW for low level waters does not require a MS/MSD and therefore no values are presented in Table J-2. Seventeen of 95 RPD soil and 14 of 143 RPD water values calculated from the PPM analyses were outside advisory control limits of $\pm 20\%$. Zero of 6 RPD soil values calculated from hexavalent chromium were outside advisory control limits of $\pm 20\%$. Control limits for metals MS/MSD are detailed in Table J-6 and J-7. One of 25 RPD values calculated from the TPH analyses exceeded control limits of $\pm 20\%$ for analytical precision. Control limits for TPH MS/MSD are detailed in Table J-8.

The majority of the RPD values which exceeded control limits for metals were close to the instrument detection limit where larger percent differences are expected. These results for soil are considered to have little impact on the environmental data quality and considered more likely to be the result of the regional matrix variability that could not be overcome by the sample mixing prior to the analysis of the samples. Water RPD values which exceeded control limits are most likely due to the unequal distribution of suspended minute particulates that could not be evenly distributed by well development procedures and mixing procedures since the analytical QC results do not indicate a systemic laboratory problem. Based on an overall 94% of the RPD results meeting control limits and the acceptable laboratory QC results, the sample collection DQO for precision has been met. No corrective action was taken based on RPD values. A complete discussion of all replicate samples is presented in section J.2.4.

J.1.1.2 Accuracy

Accuracy was defined as the degree of difference between measured or calculated values and the true value. The closer the numerical value of the measurement approaches the true value, or actual concentration, the more accurate the measurement. Analytical accuracy is expressed as the percent recovery of a compound or element that has been added to the environmental sample at a known concentration before analysis. Analytical accuracy was determined using MS/MSD and surrogate recovery data. The following equation was used to calculate percent recovery:

$$\%R = \frac{A_r - A_o}{A_i} \times 100$$

Where:

- A_r = Total compound or element concentration detected in the spiked sample
- A_o = Concentration of the compound or element detected in the unspiked sample
- A_i = Concentration of the compound or element added to the sample

Table J-2 Laboratory Quality Control Summary: MS/MSD Volatile Organic Compounds Water Samples
MIANG, Alpena CRTC, Alpena, Michigan

Precision											
Accuracy											
	Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number		MSD Total No. Analyses	Range RPD	RPD Limits	Number		
				Within Control Limits	Outside Control Limits				Within Limits	Outside Limits	
8010											
Bromodichloromethane	18	89-110	42-172	18	0	9	4-6	20	9	0	
Bromobenzene	18	91-100	60-90	18	0	9	2-5	20	9	0	
Bromoform	18	100-111	13-159	18	0	9	9-23	20	8	0	
Bromomethane	18	88-119	1-144	18	0	9	17-18	20	9	0	
Bromochloromethane	18	91-99	4-133	18	0	9	1-4	20	9	0	
Carbon tetrachloride	18	102-113	43-143	18	0	9	3-11	20	9	0	
2-Chloroethylvinyl ether	18	0-125	14-186	14	4	9	5-100	20	5	4	
Chlorobenzene	18	100-116	38-150	14	0	9	15-20	20	9	0	
Chloroethane	18	100-119	46-137	18	0	9	5-13	20	9	0	
Chloroform	18	99-104	49-133	18	0	9	4-7	20	9	0	
Chloromethane	18	81-119	1-193	18	0	9	5-15	20	9	0	
2-Chlorotoluene	18	72-93	60-140	18	0	9	4-11	20	9	0	
4-Chlorotoluene	18	74-91	60-140	18	0	9	3-6	20	9	0	
1,2-Dibromoethane	18	70-97	24-191	18	0	9	2-5	20	9	0	
Dibromochloromethane	18	65-118	24-191	18	0	9	2-9	20	9	0	
1,2-Dichlorobenzene	18	75-102	1-208	18	0	9	7-45	20	7	2	
1,3-Dichlorobenzene	18	83-102	7-187	18	0	9	7-17	20	9	0	
1,4-Dichlorobenzene	18	84-109	42-143	18	0	9	7-22	20	7	2	
1,1-Dichloroethane	18	104-106	47-132	18	0	9	2-7	20	9	0	

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Table J-2 Laboratory Quality Control Summary: MS/MSD Volatile Organic Compounds Water Samples
MIANG, Alpena CRTC, Alpena, Michigan

	Accuracy						Precision				
	Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number		MSD Total No. Analyses	Range RPD	RPD Limits	Number		
				Within Control Limits	Outside Control Limits				Within Limits	Outside Limits	
8010											
1,2-Dichloroethane	18	101-108	51-147	18	0	9	2-12	20	9	0	
1,1-Dichloroethene	18	106-125	28-167	18	0	9	4-9	20	9	0	
trans-1,2-Dichloroethene	18	106-110	38-155	18	0	9	4-6	20	9	0	
1,2-Dichloropropane	18	99-109	44-156	18	0	9	2-7	20	9	0	
cis-1,3-Dichloropropene	18	94-110	22-178	18	0	9	4-6	20	9	0	
trans-1,3-Dichloropropene	18	90-111	22-17	18	0	9	4-6	20	9	0	
Methylene Chloride	18	38-117	25-162	18	0	9	5-14	20	9	0	
1,1,2,2-Tetrachloroethane	18	79-105	8-184	18	0	9	10-70	20	8	1	
1,1,1,2-Tetrachloroethane	18	70-99	38-150	18	0	9	1-6	20	9	0	
Tetrachloroethene	18	90-113	26-162	18	0	9	3-11	20	9	0	
1,1,1-Trichloroethane	18	102-104	41-138	18	0	9	5-9	20	9	0	
1,1,2-Trichloroethane	18	91-106	39-136	18	0	9	8-9	20	9	0	
Trichloroethene	18	100-112	35-146	18	0	9	1-8	20	9	0	
1,2,3-Trichloropropane	18	79-110	60-140	18	0	9	1-27	20	8	1	
Vinyl Chloride	18	100-113	26-163	18	0	9	0-6	20	9	0	

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Table J-2 Laboratory Quality Control Summary: MS/MSD Volatile Organic Compounds Water Samples
MIANG, Alpena CRTC, Alpena, Michigan

		Accuracy				Precision					
		Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number Within Control Limits	Number Outside Control Limits	MSD Total No. Analyses	Range RPD	RPD Limits	Number Within Limits	Number Outside Limits
8020	Benzene	18	76-104	39-150	18	0	9	5-19	20	9	0
	Ethyl benzene	18	70-101	37-162	18	0	9	5-12	20	9	0
	Chlorobenzene	18	64-100	38-150	18	0	9	4-8	20	9	0
	Methyl-tert-butyl-ether	18	73-148	28-167	18	0	9	3-18	20	9	0
	Toluene	18	70-100	46-148	18	0	9	5-14	20	9	0
	1,4-Dimethylbenzene	18	79-101	55-135	18	0	9	6-14	20	9	0
	1,3-Dimethylbenzene	18	86-101	55-135	18	0	9	8-12	20	9	0
	1,2-Dimethylbenzene	18	88-104	55-135	18	0	9	8-12	20	9	0
	1,2-Dichlorobenzene	18	68-84	1-208	18	0	9	10-12	20	9	0
	1,3-Dichlorobenzene	18	83-93	7-187	18	0	9	1-16	20	9	0
Styrene	18	90-101	32-160	18	0	9	7-12	20	9	0	
1,4-Dichlorobenzene	18	85-94	42-143	18	0	9	6-10	20	9	0	

Table J-3 Laboratory Quality Control Summary: MS/MSD Volatile Organic Compounds Soil Samples
MIANG, Alpena CRTIC, Alpena, Michigan

	Accuracy				Precision					
	Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number Within Control Limits	Number Outside Control Limits	MSD Total No. Analyses	Range RPD	RPD Limits	Number Within Limits	Number Outside Limits
8010										
Bromodichloromethane	14	93-146	42-172	14	0	7	0-20	20	7	0
Bromobenzene	14	81-97	60-140	14	0	7	2-18	20	7	0
Bromoform	14	81-146	13-159	14	0	7	21-40	20	6	1
Bromomethane	14	94-104	1-144	14	0	7	0-10	20	7	0
Bromochloromethane	14	100-128	4-133	14	0	7	3-7	20	7	0
Carbon tetrachloride	14	87-108	43-143	14	0	7	0-11	20	7	0
2-Chloroethylnyl eter	14	64-108	14-186	14	0	7	7-29	20	6	1
Chlorobenzene	14	89-100	38-150	14	0	7	9-12	20	7	0
Chloroethane	14	100-111	46-137	14	0	7	8-15	20	7	0
Chloroform	14	95-100	49-133	14	0	7	0-12	20	7	0
Chloromethane	14	93-113	1-193	14	0	7	4-56	20	6	1
2-Chlorotoluene	14	80-100	60-140	14	0	7	8-12	20	7	0
4-Chlorotoluene	14	81-100	60-140	14	0	7	5-16	20	7	0
Dibromomethane	14	50-170	42-172	14	0	7	0-25	20	6	1
1,2-Dibromoethane	14	81-121	24-191	14	0	7	7-19	20	7	0
Dibromochloromethane	14	108-113	24-191	14	0	7	15-26	20	6	1
1,2-Dichlorobenzene	14	81-110	1-208	14	0	7	3-31	20	6	1
1,3-Dichlorobenzene	14	27-92	42-143	13	1	7	3-27	20	5	2

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Table J-3 Laboratory Quality Control Summary: MS/MSD Volatile Organic Compounds Soil Samples
MIANG, Alpena CRTIC, Alpena, Michigan

	Accuracy				Precision					
	Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number		MSD Total No. Analyses	Range RPD	RPD Limits	Number	
				Within Control Limits	Outside Control Limits				Within Limits	Outside Limits
8010										
1,4-Dichlorobenzene	14	89-95	42-143	14	0	7	3-31	20	6	1
1,1-Dichloroethane	14	69-100	47-132	14	0	7	3-10	20	7	0
1,2-Dichloroethane	14	100-128	51-147	14	0	7	3-16	20	7	0
1,1-Dichloroethene	14	68-111	28-167	14	0	7	7-15	20	7	0
trans-1,2-Dichloroethene	14	89-100	38-155	14	0	7	0-15	20	7	0
1,2-Dichloropropane	14	100-113	44-156	14	0	7	7-12	20	7	0
Methylene Chloride	14	28-282	46-148	8	6	7	3-26	20	6	1
cis-1,3-Dichloropropene	14	84-110	22-178	14	0	7	7-20	20	7	0
trans-1,3-Dichloropropene	14	98-112	22-178	14	0	7	6-21	20	7	0
1,1,2,2-Tetrachloroethane	14	85-129	8-184	14	0	7	5-21	20	6	1
1,1,1,2-Tetrachloroethane	14	89-100	38-150	14	0	7	9-12	20	7	0
Tetrachloroethene	14	77-100	26-162	14	0	7	3-12	20	7	0
1,1,1-Trichloroethane	14	85-111	41-138	14	0	7	5-8	20	7	0
1,1,2-Trichloroethane	14	108-129	39-136	14	0	7	5-28	20	7	0

Table J-3 Laboratory Quality Control Summary: MS/MSD Volatile Organic Compounds Soil Samples
MIANG, Alpena CRTC, Alpena, Michigan

	Accuracy				Precision					
	Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number Within Control Limits	Number Outside Control Limits	MSD Total No. Analyses	Range RPD	RPD Limits	Number Within Limits	Number Outside Limits
8010										
Trichloroethene	14	97-105	35-146	14	0	7	0-12	20	7	0
1,2,3,-Trichloropropane	14	78-100	60-140	14	0	7	25-40	20	5	2
Vinyl Chloride	14	104-113	26-163	14	0	7	0-5	20	7	0
8020										
Benzene	14	76-100	37-162	14	0	7	8-12	20	7	0
Ethyl benzene	14	76-89	38-150	14	0	7	5-16	20	7	0
Chlorobenzene	14	70-82	28-167	14	0	7	8-22	20	6	1
Methyl-tert-butyl-ether	14	100-136	25-162	14	0	7	5-28	20	5	2
Toluene	14	70-102	55-135	14	0	7	1-22	20	6	1
1,4-Dimethylbenzene	14	64-76	55-135	14	0	7	3-17	20	7	0
1,3-Dimethylbenzene	14	64-76	55-135	14	0	7	3-17	20	7	0
1,2-Dimethylbenzene	14	64-76	1-208	14	0	7	3-17	20	7	0
1,2-Dichlorobenzene	14	49-60	7-187	14	0	7	3-27	20	6	1
1,4-Dichlorobenzene	14	47-60	42-123	14	0	7	5-31	20	6	1
1,3-Dichlorobenzene	14	39-64	42-143	13	1	7	3-31	20	6	1
Styrene	14	50-75	32-160	14	0	7	10-25	20	6	1

**Table J-4 Laboratory Control Summary: MS/MSD Semivolatile Organic Compounds,
Water Samples, MIANG, Alpena CRTC, Alpena, Michigan**

	Accuracy				Precision					
	Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number Within Control Limits	Number Outside Control Limits	MSD Total No. Analyses	Range RPD	RPD Limits	Number Within Limits ¹	Number Outside Limits
Phenol	6	61-83	40-120	6	0	0		20		
bis(2-chloroethyl)ether	6	64-80	50-110	6	0	0		20		
2-Chlorophenol	6	61-81	50-110	6	0	0		20		
n-Nitroso-di-n-propylamine	6	60-84	50-110	6	0	0		20		
Hexachloroethane	6	58-64	20-110	6	0	0		20		
Isophorone	6	66-86	50-110	6	0	0		20		
1,2,4-Trichlorobenzene	6	57-73	40-100	6	0	0		20		
Naphthalene	6	66-80	30-110	6	0	0		20		
4-Chloroaniline	6	10-135	10-120	5	1	0		20		
2,4,6-Trichlorophenol	6	54-72	40-120	6	0	0		20		
2,4-Dinitrophenol	6	40-46	30-120	6	0	0		20		
Diethylphthalate	6	62-78	50-120	6	0	0		20		
n-Nitrosodiphenylamine	6	49-102	30-110	6	0	0		20		
Hexachlorobenzene	6	66-86	40-120	6	0	0		20		
Benzo(a)pyrene	6	52-74	50-120	6	0	0		20		

Note:

1) The 10/92 SOW for low-level semi-volatiles does not require matrix spike/matrix spike duplicate analysis and, therefore no data is presented in this table.

**Table J-5 Laboratory Control Summary: MS/MSD Semivolatile Organic Compounds, Soil Samples,
MIANG, Alpena CRTC, Alpena, Michigan**

	Accuracy					Precision				
	Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number Within Control Limits	Number Outside Control Limits	MSD Total No. Analyses	Range RPD	RPD Limits	Number Within Limits	Number Outside Limits
Phenol	14	32-97	26-90	12	2	7	11-41	35	5	2
2-Chlorophenol	14	31-94	25-102	14	0	7	12-43	50	7	0
1,4-Dichlorobenzene	14	27-94	28-104	14	0	7	12-43	27	5	2
n-Nitroso-di-n-propylamine	14	34-86	41-126	12	2	7	12-41	38	6	1
1,2,4-Trichlorobenzene	14	38-99	38-107	14	0	7	8-48	23	5	2
4-Chloro-3-methylphenol	14	35-109	26-103	13	1	7	10-46	33	5	2
Ancenaphthene	14	32-85	31-137	14	0	7	8-45	19	5	2
4-Nitrophenol	14	35-133	11-114	13	1	7	16-35	50	7	0
2,4-Dinitrotoluene	14	32-92	28-890	13	1	7	11-45	47	7	0
Pentachlorophenol	14	14-87	17-109	13	1	7	0-70	47	6	1
Pyrene	14	21-102	35-142	11	3	7	0-47	36	6	1

**Table J-6 Laboratory Control Summary: MS/MSD Metals, Water Samples
MIANG, Alpena CRTC, Alpena, Michigan**

	Accuracy					Precision				
	Total No. Analyses	Percent Recovery Ranges	Percent Recovery Limits	Number Within Control Limits	Number Outside Control Limits	MSD Total No. Analyses	Range RPD	RPD Limits	Number Within Limits	Number Outside Limits
Antimony	22	86-124	75-125	22	0	11	8-200	20	10	1
Arsenic	22	81-106	75-125	22	0	11	21.1-200	20	8	3
Beryllium	22	89-107	75-125	22	0	11	0	20	11	0
Cadmium	22	88-108	75-125	22	0	11	0	20	11	0
Chromium	22	90-107	75-125	22	0	11	0	20	11	0
Copper	22	90-105	75-125	22	0	11	0-200	20	10	1
Mercury	22	96-102	75-125	22	0	11	0	20	11	0
Nickel	22	96-101	75-125	22	0	11	0	20	11	0
Lead	22	73-120	75-125	21	1	11	0	20	11	0
Selenium	22	28-149	75-125	17	5	11	0-200	20	9	2
Silver	22	89-102	75-125	22	0	11	0-200	20	10	1
Thallium	22	54-101	75-125	13	9	11	0-200	20	10	1
Zinc	22	84-105	75-125	22	0	11	44-200	20	6	5

Table J-7 Laboratory Control Summary: MS/MSD Metals, Soil Samples
MIANG, Alpena CRTC, Alpena, Michigan

MIANG, Alpina CRIC, Alpina, Micingan										
Accuracy					Precision					
Total No. Analyses		Percent Recovery Ranges	Percent Recovery Limits	Number Within Control Limits	Number Outside Control Limits	MSD Total No. Analyses	Range RPD	RPD Limits	Number Within Limits	Number Outside Limits
Antimony	14	52-102	75-125	7	7	7	0	20	7	0
Arsenic	14	97-128	75-125	13	1	7	0-72	20	3	4
Beryllium	14	76-116	75-125	14	0	7	0	20	7	0
Cadmium	14	65-85	75-125	9	5	7	0	20	7	0
Cobalt	1	85	75-125	1	0	1	200	20	0	1
Hexavalent chromium	12	102-124	75-125	12	0	6	2-20	20	6	0
Chromium	14	62-108	75-125	13	1	7	0-60	20	4	3
Copper	14	87-100	75-125	14	0	7	0-56	20	4	3
Mercury	14	93-111	75-125	14	0	7	0	20	7	0
Nickel	14	73-103	75-125	13	1	7	0-200	20	5	2
Lead	14	65-390	75-125	12	2	7	0-200	20	3	4
Selenium	14	77-117	75-125	14	0	7	0	20	7	0
Silver	14	78-102	75-125	14	0	7	0	20	7	0
Thallium	14	66-104	75-125	13	1	7	0	20	7	0
Zinc	14	14-105	75-125	13	1	7	0-47	20	6	1

wp12-7.540-1007/84

**Table J-8 Laboratory Control Summary: MS/MSD TPH
MIANG, Alpena CRTC, Alpena, Michigan**

Accuracy											Precision				
	Total No. Analyses	Percent Recovery Ranges		Percent Recovery Limits		Number Within Control Limits		Number Outside Control Limits		MSD Total No. Analyses	Range RPD	RPD Limits	Number Within Limits	Number Outside Limits	
TPH	50	43-116		80-120		43		7		25	1-24	20	24	1	

wp/2-7,540-10/07/84

Objectives for accuracy were to have 90% of the data within the specified percent recovery levels for that compound or element. Laboratory accuracy was qualitatively assessed by evaluating the following laboratory QC information: sample holding times, method blank, tuning and mass calibration (GC/MS only), internal standard (GC/MS only), LCS and method blank spike recovery, and initial and continuing calibration results calculated from all analyses conducted on environmental samples.

Percent Recoveries

Four of 832 water and 8 of 658 soil percent recoveries were outside the control limits for MS/MSD analyses conducted on the samples collected and analyzed for VOCs. Established control limits for VOC percent recovery values are presented in Table J-2 and J-3. Twenty-five of 611 water and 90 of 439 surrogate percent recoveries were outside the control limits for surrogate analysis. Established control limits for VOC percent recovery values are presented in Table J-9. All supporting VOC QC information cited above was also qualitatively evaluated with respect to the analytical accuracy DQOs. Two hundred-thirty-eight VOC data points were rejected for use because the data was qualified "R" indicating unreliable results due to surrogate or internal standard recoveries. Fifty-eight samples analyzed for VOCs were analyzed out of holding times. The majority of the samples were only 1 to 2 days out of holding times. A number of second column conformation analysis were analyzed outside holding times. In the cases when second column conformation analysis were outside holding times the data was qualified accordingly. These results are not considered to have any adverse impact on the environmental data quality.

Eleven of 154 soil and 1 of 105 water percent recovery values calculated were outside the control limits for the MS/MSD analyses conducted on the samples collected and analyzed for SVOCs. Established control limits for SVOC percent recovery values are presented in Table J-4 and J-5. Twenty-one of 738 water and five of 896 soil percent recovery values calculated were outside the control limits for the surrogate analysis conducted on the samples collected and analyzed for SVOCs. Established control limits for SVOC percent recovery values are presented in Table J-10. All supporting SVOC QC information cited above was also qualitatively evaluated with respect to the analytical accuracy DQOs. None of the SVOC data points were rejected for use because the data was qualified "R" indicating unreliable results due to surrogate or internal standard recoveries. Numerous samples analyzed for SVOCs indicated detectable levels of common laboratory contaminants; these samples have been qualified "B" for blank contamination. These results are considered to have some impact on the environmental data quality.

Fourteen of 143 water and 16 of 95 soil PPM percent recovery values from the matrix spike analysis conducted on the samples exceeded recovery limits of 75- to 125- percent. Zero of 6 hexavalent chromium soil percent recovery values from the matrix spike analyses conducted on the water samples exceeded recovery limits of 75- to 125- percent. Established control limits for metals percent recovery values are presented in Table J-6 and J-7. All supporting target analyte metals QA information cited above were also qualitatively evaluated with respect to the analytical accuracy DQO. These results are not considered to have any adverse impact on the environmental data quality.

Table J-9 Laboratory Control Summary: Surrogate Recovery Semivolatile Organic Compounds
MIANG, Alpena CRTC, Alpena, Michigan

Surrogate	WATER					SOIL				
	Total No of Surrogate Analysis	Range of Outliers	Recovery Limits	Number Within Control Limits	Number Outside Control Limits	Total No of Surrogate Analysis	Range of Outliers	Recovery Limits	Number Within Control Limits	Number Outside Control Limits
Nitrobenzene	123	0-22	40-110	121	2	112		23-120	112	0
2-Fluorobiphenyl	123	0-27	42-110	120	3	112	27	30-115	111	1
Terphenyl-d14	123	3-22	24-140	121	2	112	138-141	18-137	110	2
Phenol-d5	123	0	17-113	118	5	112		24-113	112	0
2-Fluorophenol	123	0-15	16-110	118	5	112		25-121	112	0
2,4,6-Tribromophenol	123	0-15	18-126	119	4	112	14-015	19-122	110	2
2-Chlorophenol-d4						112		20-130	112	0
1,2-Dichlorobenzene-d4						112		20-130	112	0

Table J-10 Laboratory Control Summary: Surrogate Recovery Volatile Organic Compounds
MIANG, Alpena CRTC, Alpena, Michigan

Surrogate	WATER					SOIL				
	Total No of Surrogate Analysis	Range of Outliers	Recovery Limits	Number Within Control Limits	Number Outside Control Limits	Total No of Surrogate Analysis	Range of Outliers	Recovery Limits	Number Within Control Limits	Number Outside Control Limits
TCFM 1	127	70-160	75-135	119	8	77	23-160	76-135	62	15
TCFM 2	81	150	75-135	80	1	79	42-160	76-135	64	15
BFB 1 (halogenated)	127	49-130	69-123	121	6	82	16-130	69-123	62	20
BFB 2 (halogenated)	81	56-130	69-123	77	4	79	33-68	69-123	60	19
BFB 1 (aromatic)	125	55-130	69-123	121	4	71	41-130	69-123	62	9
BFB 2 (aromatic)	70	58-65	69-123	68	2	51	43-67	69-123	39	12

* TCFM - Trichlorofluoromethane
BFB - Bromofluorobenzene

Seven of 25 percent recovery values for MS/MSD values obtained for TPH analysis were outside control limits listed in Table J-8. All supporting TPH QA information cited above also was qualitatively evaluated with respect to the analytical accuracy DQO. All other QC criteria for TPH analysis were met.

A total of 61 of all 4,702 calculated percent recovery values exceeded control limits indicating that on average 96% accuracy was achieved. As a result of 96% of all percent recoveries meeting control limits, the DQO for accuracy was met. The outliers noted for VOC analysis ranged between 0- to 238- percent recovery. The SVOC outliers ranged from 33- to 133- percent exceeding the range of 10- to 140- percent recovery. All TPH outliers noted were mixed high and low with a range from 43- to 120- percent recovery. The outliers noted for PPM analysis were mixed high and low. The range of outliers noted for PPM were 14- to 390- percent exceeding control limits of 75- to 125- percent recovery. The above results are not considered to have any adverse impact on the environmental data quality.

Sampling accuracy was maximized by adherence to the strict QA program presented in the RI QAPP. All procedures (i.e., soil boring installation, soil samples collection procedures, and health monitoring equipment calibration and operation) used during the RI were documented as standard operating procedures (SOPs). Field QA blanks (i.e., trip blanks, field blanks, and equipment blanks) were prepared such that all samples represented the particular site from which they were collected, and assessed any cross-contamination that may have occurred. The environmental samples associated with the appropriate field QA samples were qualified based on the potential contaminants contained in the field QA samples.

Trip blanks

Twenty-seven trip blanks were shipped and analyzed with the environmental samples analyzed for VOCS. Trip blanks with detectable concentrations of contaminants are detailed in section J.2.1. These concentrations could not be attributed to the laboratory environment, and as a result, all concentrations of methylene chloride detected in the associated environmental samples at levels less than 10 times the trip blank concentration were considered blank contamination and were qualified accordingly.

Field Blanks

Seven field blanks were obtained and analyzed along with the environmental samples. The field blanks consisted of potable water sources used in the steam cleaner for decontamination of equipment, and ASTM Type II water produced in the field. Levels of chloroform, brominated compounds, methylene chloride, acetone, ethylbenzene, phenol, bis(2-ethylhexyl)phthalate, diethylphthalate, lead, arsenic, and copper were detected in selected field blanks collected during the RI. The brominated compounds are attributed to the potable water source. Since these compounds and elements were also detected in associated environmental samples the

concentrations detected which were less than five times that detected in the blank were considered as estimates and were qualified "B" accordingly. Detected compounds for the field blanks are detailed in section J.2.2. The low levels detected in the field blanks are not considered to have contributed to any levels in the associated environmental samples.

Equipment Rinseates.

Twenty-one equipment rinseates consisting of ASTM Type II water run through the sampling equipment were analyzed with the environmental to document the effectiveness of the decontamination efforts. Equipment rinseates contained levels of chloroform, methylene chloride, chlorobenzene, ethylbenzene, phenol, bis(2-ethylhexyl)phthalate, diethylphthalate, lead, arsenic, copper, and zinc. The majority of the compounds and elements detected in the equipment rinseates were below the CRQL or were the result of laboratory contamination. All compounds and elements detected in the equipment rinseates are detailed in section J.2.3.

Based on an evaluation of the compounds detected in the field QC blanks overall field accuracy is deemed acceptable, except where noted. A complete discussion of field QC results is presented in section J.2.

J.1.1.3 Representativeness

Representativeness was defined as the degree to which the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling location, a process condition, or an environmental condition. Sample representativeness was ensured during the RI by collecting sufficient samples of a population medium, properly distributed with respect to location and time. Representativeness was assessed by reviewing the drilling and sample collection methods used during the Alpena CRTC RI and evaluating the RPD values calculated from the duplicate samples and the concentrations of interferents detected in the field and laboratory QC blanks. The reproducibility of a representative set of samples reflects the degree of heterogeneity of the sampled medium, as well as the effectiveness of the sampling techniques.

Soil samples were collected from nine sites. All borings were advanced with a truck-mounted drilling rig using continuous-flight hollow stem augers. A minimum of two soil samples were collected for laboratory analysis from each soil boring. One sample was collected from just below the ground surface and the second from unsaturated soils just above the water table. A third and fourth sample were sometimes collected based on PID results and/or lithology. Samples were obtained using a split-spoon sampler equipped with stainless steel liners. Blow counts recording relative soil density were noted. Split-spoon samples were field-logged according to the USCS and field-screened with a PID meter and field GC for VOC concentrations. The boring was backfilled with a cement/bentonite slurry. The borings were marked at the surface and surveyed. Soil cuttings were placed on plastic sheeting for later analysis as required for disposal and the MDNR. Surface water samples were collected by directly filling the sample containers with water. Filtered samples for metals analyses were collected using a decontaminated Teflon® bailer and a disposable, 0.45 µm filter. Groundwater samples were obtained after development of each well.

The monitoring wells were allowed to recharge, purged, and then sampled. The volume of water in each well casing was calculated prior to purging. As required, 4 to 5 casing volumes were removed from each well during the purging process. A decontaminated Teflon® bailer was used to remove the stagnant groundwater from each well. Color, degree of turbidity, odor and other physical properties of the water were recorded during development. Additionally, measurement of the pH, temperature, and conductivity of the groundwater were obtained before and after purging, and prior to sampling. These data were collected to ensure a representative groundwater sample was collected.

Based on the evaluation of the factors described above and summarized in section J.3 the samples collected during the RI are considered to be representative of the environmental conditions at the Alpena CRTC.

J.1.1.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another and is limited to the other PARCC parameters, because only when precision and accuracy are known can one data set be compared to another. To optimize comparability, only the specific methods and protocols that were specified in the RI QAPP were used to collect and analyze samples during the RI. By using consistent sampling and analysis procedures, all data sets are comparable within the nine sites at Alpena CRTC, between the nine sites, or among ANG facilities nationwide. This consistency ensures that remedial action decision and priorities are based on a consistent data base.

All samples collected for VOC and SVOC analysis were analyzed using the SW-846 8010/8020 (aqueous, soils), 3/90 CLP SOW (soils) and 10/92 Low Concentration SOW (water) respectively. Samples collected for PPM were analyzed using SW-846 3rd edition methods. TPH samples were analyzed by 418.1

Based on the precision and accuracy assessment presented above, the data collected during the RI are considered to be comparable with the data collected during previous investigations.

J.1.1.5 Completeness

Completeness was defined as the percentage of useable data obtained from a measurement system. Data may be considered valid and useable even though all QC criteria have not been met. In these cases, data are valid within the constraints identified by data qualifiers. Project completeness was defined as the percentage of data points used to prepare the baseline risk assessment and upon which recommendations for site remediation are based. Objectives for project completeness were set at 90 percent. Values and concentrations reported for analysis conducted that are labeled with the qualifier "R" or "B" are excluded from use in the risk evaluation and remedial recommendations due to increased risk of indicating false positives or omitting compounds or elements that are present.

Based on the evaluation of the laboratory QC results for the 23,761 data points presented in appendix L, these data were considered equal to 93.6 percent complete, and as such, were used as the basis of all recommendations presented in this report. A total of 1,513 data points were rejected for use because the data was qualified "R" indicating unreliable results or "B" indicating possible contamination from an outside source. The data points which were qualified "R" are presented in Table J-11. The data points qualified "B" are presented in Table J-12.

J.2 Field Quality Control Assessment

Twenty-seven trip blanks, 7 field blanks, 20 equipment blanks, 14 duplicate soil and sediment samples, and 7 replicates for groundwater were collected and analyzed by the same SOPs and methods used for the 184 environmental samples. Table J-13 contains a cross-reference of the associated field QC blank samples.

J.2.1 Trip Blanks

Twenty-seven trip blanks were prepared and analyzed by Compuchem Environmental Corporation in North Carolina. The blanks were prepared in the labs using ASTM Type II water. Trip blanks were used to check for cross-contamination during sample handling and shipping of VOC samples. The trip blanks were stored with the unused sample bottles and returned to the laboratory with each cooler containing environmental samples to be analyzed for VOCs. Table J-14 summarizes the concentrations of the VOCs detected in the trip blanks collected during the R1 field effort. The contamination detected in the trip blanks can be attributed to several possible causes. Methylene chloride is a common laboratory contaminant and is frequently detected. The other contamination could be attributed to contamination from samples stored with the trip blanks at the laboratory.

Table J - 11 Data Points Qualified "R"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-P1-MW1-GW4	577704	Selenium, Dissolved	0.00	3.00	R	ug/l	09/15/93	COMPUCHEM
PC-P1-MW11-GW4	577639	Selenium, Dissolved	0.00	3.00	R	ug/l	09/14/93	COMPUCHEM
PC-P1-MW12-GW4	577477	Selenium, Dissolved	0.00	3.00	R	ug/l	09/14/93	COMPUCHEM
PC-P1-MW14-GW4	577709	Selenium, Dissolved	0.00	3.00	R	ug/l	09/15/93	COMPUCHEM
PC-P1-MW6-GW4	578093	Selenium, Dissolved	0.00	3.00	R	ug/l	09/15/93	COMPUCHEM
PC-MP2-MW1-GW4	569872	Thallium, Dissolved	0.00	3.00	R	ug/l	08/10/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,1,1,2-Tetrachloroethane	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,1,1-Trichloroethane	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,1,2,2-Tetrachloroethane	0.00	0.40	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,1,2-Trichloroethane	0.00	0.25	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,1-Dichloroethane	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,1-Dichloroethylene	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,2,3-Trichloropropane	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,2-Dibromoethane	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,2-Dichlorobenzene	0.00	0.30	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,2-Dichloroethane	0.00	0.25	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,2-Dichloropropane	0.00	0.30	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,2-trans-Dichloroethylene	0.00	0.30	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,3-Dichlorobenzene	0.00	0.20	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,3-cis-Dichloropropylene	0.00	0.30	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,3-trans-Dichloropropylene	0.00	0.25	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,4-Dichlorobenzene	0.00	0.20	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	2-Chloroethylvinyl ether	0.00	0.40	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	2-Chlorotoluene	0.00	0.25	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	4-Chlorotoluene	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Bromobenzene	0.00	0.85	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Bromochloromethane	0.00	0.25	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Bromodichloromethane	0.00	0.40	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Bromoform	0.00	0.50	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Carbon Tetrachloride	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM

Table J - 11 Data Points Qualified "R"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-MP2-MW5-GW4	571574	Chlorobenzene	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Chloroethane	0.00	0.50	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Chloroform	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Dibromochloromethane	0.00	0.30	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Dibromomethane	0.00	0.40	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Methyl bromide	0.00	0.45	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Methyl chloride	0.00	0.50	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Methylene chloride	0.54	0.00	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Tetrachloroethylene	0.00	0.30	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Trichloroethylene	0.00	0.30	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Vinyl chloride	0.00	0.55	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,2-Dichlorobenzene	0.00	0.15	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,2-Dimethylbenzene	0.00	0.20	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,3-Dichlorobenzene	0.00	0.20	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,3/1,4-Dimethylbenzene	0.00	0.50	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	1,4-Dichlorobenzene	0.00	0.15	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Benzene	0.00	0.35	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Chlorobenzene	0.00	0.25	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Ethylbenzene	0.00	0.20	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Methyl-t-Butyl Ether	0.00	5.00	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Styrene	0.00	0.25	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571574	Toluene	0.00	0.25	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571800	Thallium, Dissolved	0.00	3.00	R	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571387	Thallium	0.00	0.31	R	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS00-02	577021	Selenium, Dissolved	0.00	3.00	R	ug/l	09/13/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,1,1,2-Tetrachloroethane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,1,1-Trichloroethane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,1,2,2-Tetrachloroethane	0.00	0.40	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,1,2-Trichloroethane	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,1-Dichloroethane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM

Table J - 11 Data Points Qualified "R"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-MW1-GW4	571667	1,1-Dichloroethylene	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,2,3-Trichloropropane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,2-Dibromoethane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,2-Dichlorobenzene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,2-Dichloroethane	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,2-Dichloropropane	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,2-trans-Dichloroethylene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,3-Dichlorobenzene	0.00	0.20	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,3-cis-Dichloropropylene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,3-trans-Dichloropropylene	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,4-Dichlorobenzene	0.00	0.20	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	2-Chloroethylvinyl ether	0.00	0.40	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	2-Chlorotoluene	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	4-Chlorotoluene	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Bromobenzene	0.00	0.85	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Bromochloromethane	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Bromodichloromethane	0.00	0.40	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Bromoform	0.00	0.50	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Carbon Tetrachloride	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Chlorobenzene	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Chloroethane	0.00	0.50	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Chloroform	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Dibromochloromethane	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Dibromomethane	0.00	0.40	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Methyl bromide	0.00	0.45	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Methyl chloride	0.00	0.50	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Methylene chloride	0.23	0.00	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Tetrachloroethylene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Trichloroethylene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Vinyl chloride	0.00	0.55	R	ug/l	08/17/93	COMPUCHEM

Table J - 11 Data Points Qualified "R"
MIANG, Alpena CRT, Alpena, Michigan

Sample ID	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-MW1-GW4	571667	1,2-Dichlorobenzene	0.88	0.00	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,2-Dimethylbenzene	0.00	0.20	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,3-Dichlorobenzene	0.00	0.20	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,3-Dimethylbenzene	0.04	0.00	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,4-Dichlorobenzene	0.00	0.15	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	1,4-Dimethylbenzene	0.04	0.00	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Benzene	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Chlorobenzene	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Ethylbenzene	0.00	0.20	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Methyl-t-Butyl Ether	0.00	5.00	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Styrene	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571667	Toluene	0.17	0.00	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,1,1,2-Tetrachloroethane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,1,1-Trichloroethane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,1,2,2-Tetrachloroethane	0.00	0.40	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,1,2-Trichloroethane	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,1-Dichloroethane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,1-Dichloroethylene	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,2,3-Trichloropropane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,2-Dibromoethane	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,2-Dichlorobenzene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,2-Dichloroethane	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,2-Dichloropropane	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,2-trans-Dichloroethylene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,3-Dichlorobenzene	0.00	0.20	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,3-cis-Dichloropropylene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,3-trans-Dichloropropylene	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	1,4-Dichlorobenzene	0.00	0.20	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	2-Chloroethylvinyl ether	0.00	0.40	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	2-Chlorotoluene	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM

Table J - 11 Data Points Qualified "R"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-MW8-GW4	571661	4-Chlorotoluene	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Bromobenzene	0.00	0.85	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Bromochloromethane	0.00	0.25	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Bromodichloromethane	0.00	0.40	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Bromoform	0.00	0.50	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Carbon Tetrachloride	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Chlorobenzene	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Chloroethane	0.00	0.50	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Chloroform	0.00	0.35	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Dibromochloromethane	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Dibromomethane	0.00	0.40	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Methyl bromide	0.00	0.45	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Methyl chloride	0.00	0.50	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Methylene chloride	0.27	0.00	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Tetrachloroethylene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Trichloroethylene	0.00	0.30	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571661	Vinyl chloride	0.00	0.55	R	ug/l	08/17/93	COMPUCHEM
PC-TF4-SD010B	567556	1,1,1,2-Tetrachloroethane	0.00	0.94	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,1,2,2-Tetrachloroethane	0.00	0.63	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,1,2-Trichloroethane	0.00	0.89	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,1-Dichloroethane	0.00	0.78	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,2,3-Trichloropropane	0.00	0.94	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,2-Dichlorobenzene	0.00	1.50	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,2-Dichloroethane	0.00	0.68	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,2-Dichloropropane	0.00	0.68	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,2-trans-Dichloroethylene	0.00	1.10	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,3-Dichlorobenzene	0.00	1.10	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,3-cis-Dichloropropylene	0.00	0.99	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,4-Dichlorobenzene	0.00	1.50	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	2-Chlorotoluene	0.00	1.00	R	ug/kg	07/31/93	COMPUCHEM

Table J - 11 Data Points Qualified "R"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-SD010B	567556	4-Chlorotoluene	0.00	1.10	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Bromobenzene	0.00	0.78	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Bromochloromethane	0.00	0.94	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Carbon Tetrachloride	0.00	0.68	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Chlorobenzene	0.00	0.94	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Dibromomethane	0.00	0.94	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Tetrachloroethylene	0.00	0.83	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Trichloroethylene	0.00	0.83	R	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD011	567739	Potassium	0.00	302.00	R	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD012	567743	Potassium	0.00	319.00	R	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD013	567735	Potassium	0.00	313.00	R	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD014	567755	Potassium	0.00	303.00	R	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD016	567747	Potassium	0.00	439.00	R	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD018	567751	Potassium	0.00	729.00	R	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD115	567759	Potassium	0.00	302.00	R	mg/kg	08/01/93	COMPUCHEM
PC-SF5-MW8-GW4	577018	Selenium, Dissolved	0.00	3.00	R	ug/l	09/13/93	COMPUCHEM
PC-FF7-MW2-GW4	577513	Selenium, Dissolved	0.00	3.00	R	ug/l	09/14/93	COMPUCHEM
PC-FF7-MW3-GW4	577712	Selenium, Dissolved	0.00	3.00	R	ug/l	09/15/93	COMPUCHEM
PC-HN8-SB2-SS02-03	570788	Potassium	0.00	238.00	R	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,1,1,2-Tetrachloroethane	0.00	0.94	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,1,1-Trichloroethane	0.00	2.80	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,1,2,2-Tetrachloroethane	0.00	0.63	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,1,2-Trichloroethane	0.00	0.89	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,2,3-Trichloropropane	0.00	0.94	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,2-Dibromoethane	0.00	1.40	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,2-Dichloroethane	0.00	0.68	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,2-Dichloropropane	0.00	0.68	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	2-Chloroethylvinyl ether	0.00	1.10	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	Bromochloromethane	0.00	0.94	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	Bromodichloromethane	0.00	1.00	R	ug/kg	08/13/93	COMPUCHEM

Table J - 11 Data Points Qualified "R"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-HN8-SB3-SS01-02	570781	Bromoform	0.00	0.94	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	Dibromochloromethane	0.00	0.83	R	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS09-11	570804	Potassium	0.00	236.00	R	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS12-14	570810	Potassium	0.00	243.00	R	mg/kg	08/13/93	COMPUCHEM
PC-RT9-MW6-GW4	577718	Selenium, Dissolved	0.00	3.00	R	ug/l	09/15/93	COMPUCHEM
PC-BG1-SB1-SS02-03	569298	Potassium	0.00	240.00	R	mg/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS09-10	569299	Potassium	0.00	241.00	R	mg/kg	08/09/93	COMPUCHEM
PC-PW-PW2-GW4	569871	Thallium, Dissolved	0.00	3.00	R	ug/l	08/10/93	COMPUCHEM
PC-ER20	577485	Selenium, Dissolved	0.00	3.00	R	ug/l	09/14/93	COMPUCHEM
PC-ER21	578094	Selenium, Dissolved	0.00	3.00	R	ug/l	09/15/93	COMPUCHEM
PC-FB04	573128	2,4,5-Trichlorophenol	0.00	20.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	2,4,6-Trichlorophenol	0.00	5.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	2,4-Dimethylphenol	0.00	5.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	2,4-Dinitrophenol	0.00	20.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	2-Chlorophenol	0.00	5.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	2-Methyl-4,6-Dinitrophenol	0.00	20.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	2-Methylphenol	0.00	5.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	2-Nitrophenol	0.00	5.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	4-Chloro-3-methyl phenol	0.00	5.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	4-Methylphenol	0.00	5.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	4-Nitrophenol	0.00	20.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	Pentachlorophenol	0.00	20.00	R	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	Phenol	0.00	5.00	R	ug/l	08/23/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-P1-MW1-GW4	577693	Methylene chloride	0.42	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW1-GW4	577704	Arsenic, Dissolved	4.10	0.00	QB	ug/l	09/15/93	COMPUCHEM
PC-P1-MW1-GW4	577697	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW1-GW4	577706	Total Petroleum Hydrocarbons	2.00	0.25	B	mg/l	09/15/93	COMPUCHEM
PC-P1-MW11-GW4	577552	Methylene chloride	0.34	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW11-GW4	577635	Di-n-butyl phthalate	0.90	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW11-GW4	577635	Phenol	0.50	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW11-GW4	577635	bis(2-Ethylhexyl)phthalate	12.00	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW12-GW4	577472	Methylene chloride	0.15	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW12-GW4	577472	1,4-Dichlorobenzene	0.28	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW12-GW4	577472	Toluene	0.15	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW12-GW4	577473	Diethyl phthalate	0.60	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW12-GW4	577473	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW13-GW4	577515	Methylene chloride	0.12	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW13-GW4	577515	1,3-Dichlorobenzene	0.14	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW13-GW4	577515	1,4-Dichlorobenzene	0.66	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW13-GW4	577515	Toluene	0.22	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW13-GW4	577525	Diethyl phthalate	0.50	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW13-GW4	577525	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-P1-MW14-GW4	577527	Total Petroleum Hydrocarbons	0.80	0.25	B	mg/l	09/15/93	COMPUCHEM
PC-P1-MW14-GW4	577694	Methylene chloride	0.21	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW14-GW4	577694	Ethylbenzene	0.22	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW14-GW4	577699	Di-n-butyl phthalate	0.80	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW14-GW4	577699	Diethyl phthalate	0.60	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW14-GW4	577699	Phenol	2.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW14-GW4	577699	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW2-GW4	576497	1,2-Dichlorobenzene	0.30	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-P1-MW2-GW4	576497	1,3-Dichlorobenzene	0.13	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-P1-MW2-GW4	576497	1,4-Dichlorobenzene	0.47	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-P1-MW2-GW4	576501	Selenium	5.60	0.00	B	ug/l	09/09/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

SampleID	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-P1-MW2-GW4	576499	Di-n-butyl phthalate	0.70	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-P1-MW2-GW4	576499	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-P1-MW2-GW4	576502	Total Petroleum Hydrocarbons	0.50	0.25	B	mg/l	09/09/93	COMPUCHEM
PC-P1-MW3-GW4	576679	1,2-Dichlorobenzene	0.75	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW3-GW4	576679	1,3-Dichlorobenzene	0.21	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW3-GW4	576679	1,4-Dichlorobenzene	0.35	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW3-GW4	576673	Antimony	46.20	0.00	QB	ug/l	09/10/93	COMPUCHEM
PC-P1-MW3-GW4	576673	Copper	5.70	0.00	QB	ug/l	09/10/93	COMPUCHEM
PC-P1-MW3-GW4	576673	Selenium	6.00	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW3-GW4	576673	Zinc	12.60	0.00	QB	ug/l	09/10/93	COMPUCHEM
PC-P1-MW3-GW4	576682	bis(2-Ethylhexyl)phthalate	8.00	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW3-GW4	576685	Total Petroleum Hydrocarbons	0.40	0.25	B	mg/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576697	Methylene chloride	0.37	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576697	1,2-Dichlorobenzene	0.19	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576697	1,3-Dichlorobenzene	0.23	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576697	1,4-Dichlorobenzene	0.68	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576697	Toluene	0.11	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576675	Antimony	38.60	0.00	QB	ug/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576675	Selenium	20.00	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576703	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-P1-MW4-GW4	576705	Total Petroleum Hydrocarbons	0.60	0.25	B	mg/l	09/10/93	COMPUCHEM
PC-P1-MW6-GW4	578081	Methylene chloride	0.40	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW6-GW4	578084	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-P1-MW6-GW4	578090	Total Petroleum Hydrocarbons	0.70	0.25	B	mg/l	09/15/93	COMPUCHEM
PC-P1-SB10-SS00-02	573529	Chloroform	0.82	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB10-SS00-02	573535	Zinc	1.20	0.00	QB	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB10-SS03-04	573537	Chloroform	0.81	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB10-SS03-04	573540	Zinc	3.00	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS00-02	573519	1,1,1-Trichloroethane	0.89	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS00-02	573519	Chloroform	0.48	0.00	B	ug/kg	08/24/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-P1-SB11-SS00-02	573519	Methylene chloride	4.60	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS00-02	573519	1,2-Dichlorobenzene	0.07	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS00-02	573519	1,2-Dimethylbenzene	0.03	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS00-02	573519	1,4-Dichlorobenzene	0.10	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS00-02	573519	Styrene	0.02	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS00-02	573519	Toluene	0.23	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS00-02	573522	Zinc	1.70	0.00	QB	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS03-04	573524	Chloroform	0.65	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS03-04	573527	Arsenic	0.87	0.00	QB	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB11-SS03-04	573527	Zinc	4.50	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	1,1,1-Trichloroethane	0.48	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	Chloroform	0.71	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	1,2-Dichlorobenzene	0.08	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	1,2-Dimethylbenzene	0.03	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	1,3-Dichlorobenzene	0.07	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	1,4-Dichlorobenzene	0.33	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	Chlorobenzene	0.03	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	Styrene	0.05	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573506	Toluene	0.13	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573509	Arsenic	0.55	0.00	QB	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB12-SS00-02	573509	Zinc	3.60	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB13-SS00-02	573547	Chloroform	0.31	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB13-SS00-02	573547	Methylene chloride	1.20	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB13-SS00-02	573550	Zinc	4.10	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB13-SS03-04	573542	1,1,1-Trichloroethane	0.29	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB13-SS03-04	573542	Chloroform	0.54	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB13-SS03-04	573545	Zinc	3.50	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB20-SS00-02	573514	1,1,1-Trichloroethane	0.36	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB20-SS00-02	573514	Chloroform	0.63	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB20-SS00-02	573514	1,2-Dimethylbenzene	0.16	0.00	B	ug/kg	08/24/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-P1-SB20-SS00-02	573514	Toluene	0.17	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB20-SS00-02	573517	Arsenic	0.73	0.00	QB	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB20-SS00-02	573517	Zinc	4.30	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS00-01	573625	1,1,1-Trichloroethane	0.26	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS00-01	573625	Chloroform	0.41	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS00-01	573625	Methylene chloride	1.80	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS00-01	573627	Zinc	2.00	0.00	QB	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS02-03	573630	1,1,1-Trichloroethane	0.30	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS02-03	573630	Chloroform	0.79	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS02-03	573630	Methylene chloride	5.40	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS02-03	573630	1,3-Dichlorobenzene	0.45	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS02-03	573630	Toluene	0.22	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB4-SS02-03	573632	Zinc	4.20	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS00-02	573606	Chloroform	0.70	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS00-02	573606	Methylene chloride	4.90	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS00-02	573606	1,3-Dichlorobenzene	0.45	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS00-02	573606	Toluene	0.22	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS00-02	573608	Zinc	5.00	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS03-04	573615	1,1,1-Trichloroethane	0.26	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS03-04	573615	Chloroform	0.69	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS03-04	573615	Methylene chloride	2.50	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS03-04	573615	1,3-Dichlorobenzene	0.29	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS03-04	573615	1,4-Dichlorobenzene	0.65	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB5-SS03-04	573620	Zinc	3.80	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB6-SS00-02	573601	1,1,1-Trichloroethane	0.05	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB6-SS00-02	573601	Chloroform	0.61	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB6-SS00-02	573601	Methylene chloride	5.90	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB6-SS00-02	573601	1,2-Dimethylbenzene	0.25	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB6-SS00-02	573601	Toluene	0.16	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB6-SS00-02	573603	Zinc	5.70	0.00	B	mg/kg	08/24/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-P1-SB6-SS03-04	573596	1,1,1-Trichloroethane	0.22	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB6-SS03-04	573596	Chloroform	0.74	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB6-SS03-04	573598	Zinc	6.10	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS00-02	573586	1,1,1-Trichloroethane	0.48	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS00-02	573586	Chloroform	0.81	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS00-02	573588	Zinc	2.80	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS03-04	573578	1,1,1-Trichloroethane	0.11	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS03-04	573578	Chloroform	0.88	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS03-04	573578	Methylene chloride	5.80	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS03-04	573578	1,2-Dimethylbenzene	0.09	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS03-04	573578	Toluene	0.26	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB7-SS03-04	573580	Zinc	4.70	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS00-02	573591	1,1,1-Trichloroethane	0.13	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS00-02	573591	Chloroform	0.67	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS00-02	573591	1,2-Dimethylbenzene	0.16	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS00-02	573591	1,3-Dichlorobenzene	0.03	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS00-02	573591	Toluene	0.13	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS00-02	573593	Zinc	23.60	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS03-04	573635	1,1,1-Trichloroethane	0.33	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS03-04	573635	Chloroform	0.89	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS03-04	573635	1,3-Dichlorobenzene	0.39	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS03-04	573635	Toluene	0.28	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB8-SS03-04	573649	Zinc	2.50	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS00-02	573566	Chloroform	0.61	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS00-02	573566	Methylene chloride	4.40	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS00-02	573566	1,2-Dimethylbenzene	0.04	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS00-02	573566	Toluene	0.19	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS00-02	573571	Zinc	8.00	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS03-04	573555	1,1,1-Trichloroethane	0.09	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS03-04	573555	Chloroform	1.40	0.00	B	ug/kg	08/24/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-P1-SB9-SS03-04	573555	Methylene chloride	3.90	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS03-04	573555	1,2-Dimethylbenzene	0.16	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS03-04	573555	Toluene	0.46	0.00	B	ug/kg	08/24/93	COMPUCHEM
PC-P1-SB9-SS03-04	573564	Zinc	5.70	0.00	B	mg/kg	08/24/93	COMPUCHEM
PC-P1-SD001	577048	Chloroform	0.34	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD001	577048	Methylene chloride	0.63	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD001	577048	1,2-Dimethylbenzene	0.20	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD001	577048	1,4-Dichlorobenzene	0.27	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD001	577048	Toluene	0.24	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD002	577032	Chloroform	0.23	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD002	577032	Methylene chloride	1.40	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD002	577032	Toluene	0.20	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD003	577038	Chloroform	0.30	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD003	577038	Methylene chloride	0.26	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD003	577038	1,2-Dimethylbenzene	0.12	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD003	577038	Toluene	0.34	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD004	577042	Chloroform	0.29	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD004	577042	Methylene chloride	2.70	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD004	577042	1,2-Dimethylbenzene	0.12	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD004	577042	Toluene	0.14	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD005	577049	Chloroform	0.60	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD005	577049	Methylene chloride	2.80	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD005	577049	1,2-Dimethylbenzene	0.12	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD005	577049	1,4-Dichlorobenzene	0.25	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-P1-SD005	577049	Toluene	0.12	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-MW1-GW4	569859	1,2-Dichlorobenzene	0.29	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-MP2-MW1-GW4	569859	1,4-Dichlorobenzene	0.13	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-MP2-MW1-GW4	569859	Toluene	0.22	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-MP2-MW1-GW4	569881	bis(2-Ethylhexyl)phthalate	1.00	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-MP2-MW1-GW4	569882	Total Petroleum Hydrocarbons	2.50	0.25	B	mg/l	08/10/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-MP2-MW2-GW4	571265	1,2-Dichlorobenzene	0.52	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-MP2-MW2-GW4	571265	Toluene	0.09	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-MP2-MW2-GW4	571314	Antimony, Dissolved	42.30	0.00	(B)	ug/l	08/15/93	COMPUCHEM
PC-MP2-MW2-GW4	571314	Arsenic, Dissolved	14.70	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-MP2-MW2-GW4	571299	Copper	4.50	0.00	(B)	ug/l	08/15/93	COMPUCHEM
PC-MP2-MW2-GW4	571314	Lead, Dissolved	4.10	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-MP2-MW2-GW4	571277	bis(2-Ethylhexyl)phthalate	1.00	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-MP2-MW2-GW4	571300	Total Petroleum Hydrocarbons	5.60	0.25	B	mg/l	08/15/93	COMPUCHEM
PC-MP2-MW3-GW4	571257	1,2-Dichlorobenzene	0.26	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW3-GW4	571257	1,3-Dichlorobenzene	0.08	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW3-GW4	571257	Toluene	0.17	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW3-GW4	571280	Antimony	44.30	0.00	(B)	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW3-GW4	571268	Phenol	0.70	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW3-GW4	571268	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW3-GW4	571281	Total Petroleum Hydrocarbons	0.60	0.25	B	mg/l	08/16/93	COMPUCHEM
PC-MP2-MW4-GW4	571266	1,2-Dichlorobenzene	0.38	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW4-GW4	571266	1,4-Dichlorobenzene	0.36	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW4-GW4	571266	Toluene	0.21	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW4-GW4	571278	bis(2-Ethylhexyl)phthalate	1.00	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW4-GW4	571305	Total Petroleum Hydrocarbons	0.40	0.25	B	mg/l	08/16/93	COMPUCHEM
PC-MP2-MW5-GW4	571800	Antimony, Dissolved	46.10	0.00	(B)	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	571800	Zinc, Dissolved	5.10	0.00	(B)	ug/l	08/12/93	COMPUCHEM
PC-MP2-MW5-GW4	578221	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	09/16/93	COMPUCHEM
PC-MP2-MW5-GW4	571793	Total Petroleum Hydrocarbons	1.10	0.25	B	mg/l	08/12/93	COMPUCHEM
PC-MP2-MW6-GW4	576523	1,2-Dichlorobenzene	3.40	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW6-GW4	576523	1,3-Dichlorobenzene	0.15	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW6-GW4	576523	1,4-Dichlorobenzene	0.52	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW6-GW4	576527	Zinc	9.70	0.00	(B)	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW6-GW4	576525	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW6-GW4	576529	Total Petroleum Hydrocarbons	2.30	0.25	B	mg/l	09/09/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-MP2-MW7-GW4	576505	Methylene chloride	0.42	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW7-GW4	576505	1,2-Dichlorobenzene	0.17	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW7-GW4	576505	1,4-Dichlorobenzene	0.30	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW7-GW4	576509	Selenium	3.20	0.00	QB	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW7-GW4	576507	Di-n-butyl phthalate	1.00	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW7-GW4	576507	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-MP2-MW9-GW4	571262	Toluene	0.26	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW9-GW4	571312	Arsenic, Dissolved	6.10	0.00	QB	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW9-GW4	571293	Copper	4.50	0.00	QB	ug/l	08/16/93	COMPUCHEM
PC-MP2-MW9-GW4	571273	bis(2-Ethylhexyl)phthalate	7.00	0.00	B	ug/l	08/16/93	COMPUCHEM
PC-MP2-SB10-SS00-01	577028	Chloroform	0.19	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS00-01	577028	Methylene chloride	3.80	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS03-04	577029	Chloroform	0.30	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS03-04	577029	Methylene chloride	5.20	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS03-04	577029	Toluene	0.15	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS08-10	577024	Chloroform	0.31	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS08-10	577024	Methylene chloride	4.10	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS08-10	577024	1,2-Dimethylbenzene	0.14	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS08-10	577024	1,4-Dichlorobenzene	0.11	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB10-SS08-10	577024	Toluene	0.17	0.00	B	ug/kg	09/13/93	COMPUCHEM
PC-MP2-SB2-SS00-02	571978	1,1,1-Trichloroethane	0.36	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS00-02	571978	Chloroform	0.56	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS00-02	571978	Methylene chloride	7.20	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS00-02	572052	Arsenic	0.58	0.00	QB	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS00-02	572052	Zinc	13.00	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS04-05	571975	1,1,1-Trichloroethane	0.38	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS04-05	571975	Chloroform	0.31	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS04-05	571975	Methylene chloride	3.20	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS04-05	572038	Arsenic	0.48	0.00	QB	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB2-SS04-05	572038	Zinc	4.50	0.00	B	mg/kg	08/17/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-MP2-SB3-SS00-02	571982	Chloroform	0.30	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS00-02	571982	Methylene chloride	3.80	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS00-02	572067	Arsenic	0.49	0.00	(B)	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS00-02	572067	Zinc	5.50	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS04-05	571977	1,1,1-Trichloroethane	0.50	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS04-05	571977	Chloroform	0.31	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS04-05	571977	Methylene chloride	1.40	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS04-05	572046	Arsenic	0.60	0.00	(B)	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS04-05	572046	Zinc	5.50	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS05-07	571979	1,1,1-Trichloroethane	0.38	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS05-07	571979	Chloroform	0.47	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS05-07	571979	Methylene chloride	1.40	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS05-07	572056	Arsenic	0.49	0.00	(B)	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB3-SS05-07	572056	Zinc	2.90	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB4-SS00-02	571974	1,1,1-Trichloroethane	0.41	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB4-SS00-02	571974	Chloroform	0.32	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB4-SS00-02	571974	Methylene chloride	2.40	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB4-SS00-02	572028	Arsenic	0.89	0.00	(B)	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB4-SS00-02	572028	Zinc	6.90	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB4-SS03-04	571328	Chloroform	0.90	0.00	B	ug/kg	08/14/93	COMPUCHEM
PC-MP2-SB4-SS03-04	571328	Methylene chloride	3.00	0.00	B	ug/kg	08/14/93	COMPUCHEM
PC-MP2-SB4-SS03-04	571328	Toluene	0.53	0.00	B	ug/kg	08/14/93	COMPUCHEM
PC-MP2-SB4-SS03-04	571371	Arsenic	0.79	0.00	(B)	mg/kg	08/14/93	COMPUCHEM
PC-MP2-SB4-SS03-04	571371	Lead	1.00	0.00	B	mg/kg	08/14/93	COMPUCHEM
PC-MP2-SB4-SS03-04	571371	Zinc	13.50	0.00	B	mg/kg	08/14/93	COMPUCHEM
PC-MP2-SB4-SS04-05	571983	Chloroform	0.32	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB4-SS04-05	571983	Methylene chloride	4.70	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB4-SS04-05	572083	Zinc	6.00	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS00-02	571981	1,1,1-Trichloroethane	0.34	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS00-02	571981	Chloroform	0.41	0.00	B	ug/kg	08/17/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRT, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-MP2-SB5-SS00-02	571981	Methylene chloride	2.70	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS00-02	572064	Arsenic	0.68	0.00	(B)	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS00-02	572064	Zinc	8.50	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS04-05	571976	1,1,1-Trichloroethane	0.40	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS04-05	571976	Chloroform	0.32	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS04-05	571976	Methylene chloride	1.70	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS04-05	571976	1,3-Dichlorobenzene	0.31	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS04-05	572043	Arsenic	0.41	0.00	(B)	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB5-SS04-05	572043	Zinc	3.50	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-MP2-SB6-SS00-02	571316	Chloroform	0.55	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS00-02	571316	1,4-Dichlorobenzene	0.26	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS00-02	571316	Toluene	0.28	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS00-02	571341	Arsenic	1.90	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS00-02	571341	Zinc	20.30	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS05-06	571334	Chloroform	0.37	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS05-06	571334	Methylene chloride	7.60	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS05-06	571334	1,4-Dichlorobenzene	0.62	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS05-06	571334	Toluene	0.69	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS05-06	571395	Arsenic	0.61	0.00	(B)	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS05-06	571395	Lead	0.94	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB6-SS05-06	571395	Zinc	6.70	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS00-02	571323	1,1,1-Trichloroethane	0.22	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS00-02	571323	Chloroform	0.58	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS00-02	571323	Methylene chloride	4.40	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS00-02	571323	Toluene	0.23	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS00-02	571356	Arsenic	0.69	0.00	(B)	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS00-02	571356	Lead	1.40	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS00-02	571356	Zinc	9.50	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS05-06	571333	Chloroform	0.54	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS05-06	571333	Methylene chloride	5.60	0.00	B	ug/kg	08/15/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-MP2-SB7-SS05-06	571333	Toluene	0.25	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS05-06	571391	Arsenic	0.71	0.00	(B)	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS05-06	571391	Lead	1.10	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB7-SS05-06	571391	Zinc	9.60	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS00-02	571332	1,1,1-Trichloroethane	0.20	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS00-02	571332	Chloroform	0.97	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS00-02	571332	Methylene chloride	1.30	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS00-02	571332	Toluene	0.54	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS00-02	571387	Arsenic	2.50	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS00-02	571387	Lead	11.80	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS00-02	571387	Zinc	21.70	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS05-06	571331	Chloroform	0.59	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS05-06	571331	Methylene chloride	1.40	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS05-06	571331	1,4-Dichlorobenzene	0.46	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS05-06	571331	Toluene	0.18	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS05-06	571383	Arsenic	0.58	0.00	(B)	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS05-06	571383	Lead	2.50	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB8-SS05-06	571383	Zinc	10.00	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-MP2-SB9-SS03-04	571695	1,1,1-Trichloroethane	0.05	0.00	B	ug/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS03-04	571695	Chloroform	0.57	0.00	B	ug/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS03-04	571695	Methylene chloride	5.70	0.00	B	ug/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS03-04	571697	Arsenic	0.62	0.00	(B)	mg/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS03-04	571697	Lead	0.84	0.00	B	mg/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS03-04	571697	Zinc	5.40	0.00	B	mg/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS04-06	571678	Chloroform	0.63	0.00	B	ug/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS04-06	571678	Methylene chloride	2.00	0.00	B	ug/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS04-06	571680	Arsenic	0.57	0.00	(B)	mg/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS04-06	571680	Lead	1.00	0.00	B	mg/kg	08/16/93	COMPUCHEM
PC-MP2-SB9-SS04-06	571680	Zinc	4.60	0.00	B	mg/kg	08/16/93	COMPUCHEM
PC-CG3-MW1-GW4	571259	1,3-Dichlorobenzene	0.14	0.00	B	ug/l	08/15/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-CG3-MW1-GW4	571259	Toluene	0.19	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-CG3-MW1-GW4	571270	bis(2-Ethylhexyl)phthalate	0.90	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-CG3-MW1-GW4	571285	Total Petroleum Hydrocarbons	1.80	0.25	B	mg/l	08/15/93	COMPUCHEM
PC-CG3-MW2-GW4	574047	Methylene chloride	0.13	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW2-GW4	574047	1,2-Dichlorobenzene	1.80	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW2-GW4	574047	Toluene	0.11	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW2-GW4	574069	Zinc, Dissolved	12.70	0.00	(B)	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW2-GW4	574055	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW2-GW4	574068	Total Petroleum Hydrocarbons	0.90	0.25	B	mg/l	08/25/93	COMPUCHEM
PC-CG3-MW3-GW4	574048	Methylene chloride	0.27	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW3-GW4	574048	1,2-Dichlorobenzene	0.31	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW3-GW4	574048	Toluene	0.08	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW3-GW4	574061	Copper	5.30	0.00	(B)	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW3-GW4	574061	Zinc	18.50	0.00	(B)	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW3-GW4	574071	Zinc, Dissolved	5.00	0.00	(B)	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW3-GW4	574056	Phenol	1.00	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW3-GW4	574056	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW4-GW4	574049	Methylene chloride	0.43	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW4-GW4	574049	1,2-Dichlorobenzene	0.25	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW4-GW4	574049	Toluene	0.15	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW4-GW4	574062	Zinc	6.80	0.00	(B)	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW4-GW4	574073	Zinc, Dissolved	23.80	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW4-GW4	574057	Phenol	0.50	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW4-GW4	574057	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	08/25/93	COMPUCHEM
PC-CG3-MW5-GW4	574362	1,1,1-Trichloroethane	0.08	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW5-GW4	574362	Methylene chloride	0.31	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW5-GW4	574380	Antimony	43.10	0.00	(B)	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW5-GW4	574380	Zinc	8.80	0.00	(B)	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW5-GW4	574397	Zinc, Dissolved	20.90	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW5-GW4	574415	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	08/26/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-CG3-MW5-GW4	574417	Total Petroleum Hydrocarbons	1.00	0.25	B	mg/l	08/26/93	COMPUCHEM
PC-CG3-MW6-GW4	576676	1,2-Dichlorobenzene	0.41	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-CG3-MW6-GW4	576676	1,3-Dichlorobenzene	0.29	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-CG3-MW6-GW4	576672	Antimony	42.50	0.00	(B)	ug/l	09/10/93	COMPUCHEM
PC-CG3-MW6-GW4	576672	Selenium	17.20	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-CG3-MW6-GW4	576677	bis(2-Ethylhexyl)phthalate	7.00	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-CG3-MW6-GW4	576678	Total Petroleum Hydrocarbons	0.80	0.25	B	mg/l	09/10/93	COMPUCHEM
PC-CG3-MW7-GW4	576961	Methylene chloride	0.31	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-CG3-MW7-GW4	576961	1,2-Dichlorobenzene	0.67	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-CG3-MW7-GW4	576961	Toluene	0.10	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-CG3-MW7-GW4	577019	Selenium	5.30	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-CG3-MW7-GW4	576970	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-CG3-MW9-GW4	574367	1,1,1-Trichloroethane	0.11	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW9-GW4	574367	Methylene chloride	0.35	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW9-GW4	574390	Zinc	73.20	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW9-GW4	574400	Zinc, Dissolved	21.80	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW9-GW4	574431	Phenol	0.80	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW9-GW4	574431	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-CG3-MW9-GW4	574432	Total Petroleum Hydrocarbons	0.40	0.25	B	mg/l	08/26/93	COMPUCHEM
PC-CG3-SB11-SS00-02	574436	Chloroform	0.55	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS00-02	574436	Toluene	0.12	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS00-02	574446	Zinc	9.00	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS04-06	574592	1,1,1-Trichloroethane	0.11	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS04-06	574592	Chloroform	0.59	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS04-06	574592	Methylene chloride	2.70	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS04-06	574592	1,2-Dichlorobenzene	0.12	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS04-06	574592	1,2-Dimethylbenzene	0.12	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS04-06	574592	Toluene	0.16	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS04-06	574605	Zinc	14.80	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS10-12	574454	Chloroform	0.42	0.00	B	ug/kg	08/26/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-CG3-SB11-SS10-12	574454	Methylene chloride	2.40	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB11-SS10-12	574462	Zinc	5.40	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS00-02	574464	Chloroform	0.50	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS00-02	574464	Methylene chloride	4.50	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS00-02	574467	Zinc	9.90	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS04-06	574596	1,1,1-Trichloroethane	0.09	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS04-06	574596	Chloroform	0.60	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS04-06	574596	Methylene chloride	2.90	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS04-06	574596	1,2-Dimethylbenzene	0.14	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS04-06	574596	Toluene	0.13	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS04-06	574608	Zinc	19.00	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS10-12	574469	1,1,1-Trichloroethane	0.19	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS10-12	574469	Chloroform	0.53	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS10-12	574469	Methylene chloride	3.10	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB12-SS10-12	574472	Zinc	4.70	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS00-02	574474	1,1,1-Trichloroethane	0.18	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS00-02	574474	Chloroform	0.60	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS00-02	574474	Methylene chloride	3.10	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS00-02	574474	1,4-Dichlorobenzene	0.25	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS00-02	574474	Benzene	0.02	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS00-02	574474	Styrene	0.08	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS00-02	574480	Zinc	7.10	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS02-04	574487	Chloroform	0.40	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS02-04	574487	Methylene chloride	3.10	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS02-04	574490	Zinc	10.70	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS04-06	574597	1,1,1-Trichloroethane	0.14	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS04-06	574597	Chloroform	0.54	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS04-06	574597	Methylene chloride	2.80	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS04-06	574597	1,2-Dimethylbenzene	0.09	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS04-06	574597	1,4-Dichlorobenzene	0.10	0.00	B	ug/kg	08/26/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-CG3-SB13-SS04-06	574597	Toluene	0.12	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS04-06	574613	Zinc	65.30	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS08-10	575034	1,1,1-Trichloroethane	0.18	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS08-10	575034	Chloroform	0.67	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS08-10	575034	Methylene chloride	10.00	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS08-10	575034	1,2-Dichlorobenzene	0.08	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS08-10	575034	1,2-Dimethylbenzene	0.35	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS08-10	575034	1,4-Dichlorobenzene	0.03	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS08-10	575034	Toluene	0.24	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS08-10	575037	Zinc	11.60	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574482	1,1,1-Trichloroethane	0.10	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574482	1,3-Dichlorobenzene	0.05	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574482	1,4-Dichlorobenzene	0.07	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574482	4-Chlorotoluene	0.06	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574482	Chloroform	0.39	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574482	Methylene chloride	2.60	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574482	Tetrachloroethylene	0.06	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574482	Trichloroethylene	0.03	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB13-SS10-12	574485	Zinc	4.90	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-CG3-SB20-SS00-02	574492	Chloroform	0.44	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB20-SS00-02	574492	Methylene chloride	9.30	0.00	B	ug/kg	08/26/93	COMPUCHEM
PC-CG3-SB20-SS00-02	574495	Zinc	33.10	0.00	B	mg/kg	08/26/93	COMPUCHEM
PC-TF4-MW1-GW4	571677	Antimony, Dissolved	53.80	0.00	QB	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW1-GW4	571671	Total Petroleum Hydrocarbons	1.50	0.25	B	mg/l	08/17/93	COMPUCHEM
PC-TF4-MW2-GW4	570190	1,2-Dichlorobenzene	1.00	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-TF4-MW2-GW4	570190	Toluene	0.21	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-TF4-MW2-GW4	570196	Copper	18.60	0.00	QB	ug/l	08/11/93	COMPUCHEM
PC-TF4-MW2-GW4	570181	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-TF4-MW3-GW4	570205	Antimony	84.60	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-TF4-MW3-GW4	570188	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	08/11/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-MW3-GW4	570211	Total Petroleum Hydrocarbons	1.10	0.25	B	mg/l	08/11/93	COMPUCHEM
PC-TF4-MW4-GW4	570415	1,2-Dichlorobenzene	1.10	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-TF4-MW4-GW4	570415	1,3-Dichlorobenzene	0.07	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-TF4-MW4-GW4	570415	1,4-Dichlorobenzene	0.07	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-TF4-MW4-GW4	570415	Toluene	0.11	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-TF4-MW4-GW4	570462	Antimony, Dissolved	36.20	0.00	QB	ug/l	08/12/93	COMPUCHEM
PC-TF4-MW4-GW4	570467	Copper	22.50	0.00	QB	ug/l	08/12/93	COMPUCHEM
PC-TF4-MW4-GW4	570425	bis(2-Ethylhexyl)phthalate	0.90	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-TF4-MW4-GW4	572090	Total Petroleum Hydrocarbons	2.10	0.25	B	mg/l	08/12/93	COMPUCHEM
PC-TF4-MW8-GW4	571676	Antimony, Dissolved	69.20	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571676	Lead, Dissolved	9.40	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571676	Zinc, Dissolved	7.10	0.00	QB	ug/l	08/17/93	COMPUCHEM
PC-TF4-MW8-GW4	571666	Total Petroleum Hydrocarbons	0.80	0.25	B	mg/l	08/17/93	COMPUCHEM
PC-TF4-SD001	566948	Chloroform	1.10	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD001	566948	Methylene chloride	1.90	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD001	566948	1,2-Dichlorobenzene	3.30	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD001	566964	Copper	4.80	0.00	QB	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD001	566964	Lead	4.50	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD001	566964	Zinc	13.80	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD001	566956	bis(2-Ethylhexyl)phthalate	90.00	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD001A	566952	Chloroform	0.95	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD001A	566968	Copper	2.60	0.00	QB	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD001A	566968	Lead	0.93	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD001A	566968	Zinc	4.80	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD001A	566957	bis(2-Ethylhexyl)phthalate	50.00	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD002A	566954	1,1,1-Trichloroethane	0.36	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD002A	566954	Chloroform	1.50	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD002A	566970	Copper	1.40	0.00	QB	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD002A	566970	Lead	1.30	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD002A	566970	Zinc	5.60	0.00	B	mg/kg	07/29/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTIC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-SD002A	566962	bis(2-Ethylhexyl)phthalate	110.00	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD002B	566953	Chloroform	0.98	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD002B	566969	Copper	1.80	0.00	QB	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD002B	566969	Lead	0.90	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD002B	566969	Zinc	5.90	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD003	566955	Chloroform	1.00	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD003	566955	1,2-Dichlorobenzene	1.20	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD003	566971	Copper	1.50	0.00	QB	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD003	566971	Lead	3.00	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD003	566971	Zinc	7.30	0.00	B	mg/kg	07/29/93	COMPUCHEM
PC-TF4-SD003	566963	bis(2-Ethylhexyl)phthalate	110.00	0.00	B	ug/kg	07/29/93	COMPUCHEM
PC-TF4-SD004A	567306	Chloroform	0.95	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD004A	567323	Copper	1.70	0.00	QB	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD004A	567323	Lead	1.90	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD004A	567323	Zinc	12.70	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD004B	567307	Chloroform	1.10	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD004B	567330	Copper	2.10	0.00	QB	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD004B	567330	Zinc	9.10	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD005A	567308	Chloroform	1.10	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD005A	567308	Methylene chloride	18.00	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD005A	567333	Copper	6.20	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD005A	567333	Lead	8.10	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD005A	567333	Zinc	8.90	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD005A	567316	bis(2-Ethylhexyl)phthalate	100.00	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD005B	567310	Chloroform	0.95	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD005B	567338	Copper	1.40	0.00	QB	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD005B	567338	Lead	1.60	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD005B	567338	Zinc	6.90	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD006A	567313	1,1,1-Trichloroethane	1.60	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD006A	567313	Chloroform	0.57	0.00	B	ug/kg	07/30/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-SD006A	567313	Methylene chloride	2.90	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD006A	567348	Copper	2.40	0.00	QB	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD006A	567348	Lead	3.80	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD006A	567348	Zinc	8.60	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD006A	567321	bis(2-Ethylhexyl)phthalate	280.00	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD006B	567312	Chloroform	0.74	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD006B	567312	Methylene chloride	2.70	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD006B	567346	Copper	1.90	0.00	QB	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD006B	567346	Lead	1.20	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD006B	567346	Zinc	10.50	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD007	567551	Chloroform	0.82	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD007	567551	Methylene chloride	4.70	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD007	567551	1,2-Dichlorobenzene	3.00	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD007	567557	Copper	0.78	0.00	QB	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD007	567557	Lead	0.93	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD007	567557	Zinc	6.30	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD008	567552	Chloroform	0.72	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD008	567552	1,2-Dichlorobenzene	2.80	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD008	567561	Copper	1.60	0.00	QB	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD008	567561	Lead	4.60	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD008	567561	Zinc	10.60	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD009A	567553	Chloroform	0.68	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD009A	567564	Copper	1.70	0.00	QB	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD009A	567564	Lead	3.90	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD009A	567564	Zinc	10.20	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD009A	567563	bis(2-Ethylhexyl)phthalate	42.00	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD009B	567554	Chloroform	0.74	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD009B	567554	1,2-Dichlorobenzene	2.50	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD009B	567567	Beryllium	0.13	0.00	QB	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD009B	567567	Copper	3.20	0.00	B	mg/kg	07/31/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-SD009B	567567	Lead	1.10	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD009B	567567	Zinc	12.20	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD009B	567566	bis(2-Ethylhexyl)phthalate	46.00	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010A	567555	Chloroform	0.82	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010A	567570	Copper	4.50	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD010A	567570	Lead	14.50	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD010A	567570	Zinc	79.20	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD010A	567569	bis(2-Ethylhexyl)phthalate	55.00	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,1,1-Trichloroethane	0.28	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Chloroform	0.54	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	Methylene chloride	2.70	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567556	1,4-Dichlorobenzene	0.06	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567573	Copper	1.70	0.00	(B)	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567573	Lead	3.40	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567573	Zinc	7.80	0.00	B	mg/kg	07/31/93	COMPUCHEM
PC-TF4-SD010B	567572	bis(2-Ethylhexyl)phthalate	41.00	0.00	B	ug/kg	07/31/93	COMPUCHEM
PC-TF4-SD011	567737	1,1,1-Trichloroethane	0.34	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD011	567737	Chloroform	1.20	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD011	567737	Methylene chloride	2.00	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD011	567739	Lead	0.77	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD011	567739	Zinc	4.40	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD012	567741	Chloroform	1.00	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD012	567741	Methylene chloride	2.10	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD012	567743	Lead	1.70	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD012	567743	Zinc	5.80	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD012	567742	bis(2-Ethylhexyl)phthalate	47.00	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD013	567733	Chloroform	1.10	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD013	567733	Methylene chloride	4.90	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD013	567735	Lead	1.30	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD013	567735	Zinc	4.80	0.00	B	mg/kg	08/01/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-SD014	567753	1,1,1-Trichloroethane	0.37	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD014	567753	Chloroform	1.20	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD014	567755	Lead	2.30	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD014	567755	Zinc	8.30	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD015	567713	Chloroform	0.96	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD015	567715	Copper	1.40	0.00	QB	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD015	567715	Lead	0.77	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD015	567715	Zinc	14.30	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD016	567745	Chloroform	0.92	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD016	567747	Lead	2.20	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD016	567747	Zinc	7.60	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD016	567746	bis(2-Ethylhexyl)phthalate	85.00	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD017	567717	Methylene chloride	0.77	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD017	567725	Lead	7.30	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD017	567725	Zinc	40.90	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD018	567749	1,1,1-Trichloroethane	1.10	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD018	567749	Chloroform	2.10	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD018	567751	Lead	1.60	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD018	567751	Zinc	14.10	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD104B	567309	Chloroform	1.10	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD104B	567309	Methylene chloride	3.30	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD104B	567336	Copper	2.10	0.00	QB	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD104B	567336	Lead	1.40	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD104B	567336	Zinc	8.50	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD106B	567311	1,1,1-Trichloroethane	0.43	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD106B	567311	Chloroform	0.99	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD106B	567311	Methylene chloride	3.90	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD106B	567340	Copper	1.90	0.00	QB	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD106B	567340	Lead	1.90	0.00	B	mg/kg	07/30/93	COMPUCHEM
PC-TF4-SD106B	567340	Zinc	8.30	0.00	B	mg/kg	07/30/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-SD106B	567319	bis(2-Ethylhexyl)phthalate	60.00	0.00	B	ug/kg	07/30/93	COMPUCHEM
PC-TF4-SD115	567757	1,1,1-Trichloroethane	0.37	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD115	567757	Chloroform	1.20	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD115	567757	Methylene chloride	6.90	0.00	B	ug/kg	08/01/93	COMPUCHEM
PC-TF4-SD115	567759	Lead	0.80	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SD115	567759	Zinc	5.80	0.00	B	mg/kg	08/01/93	COMPUCHEM
PC-TF4-SW001	566797	Methylene chloride	0.29	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW001	566797	1,2-Dichlorobenzene	1.00	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW001	566797	1,4-Dichlorobenzene	0.17	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW001	566797	Toluene	0.16	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW001	566803	Copper	4.60	0.00	(B)	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW002	566819	Methylene chloride	0.32	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW002	566819	Toluene	0.11	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW002	566822	Antimony	56.60	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW002	566822	Copper	5.00	0.00	(B)	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW003	566824	Methylene chloride	0.17	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW003	566824	Toluene	0.33	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW004	566828	1,1,1-Trichloroethane	0.16	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW004	566828	Benzene	0.14	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW004	566828	Toluene	0.18	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TF4-SW005	567254	Methylene chloride	0.18	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW005	567260	bis(2-Ethylhexyl)phthalate	0.90	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW006	567252	Methylene chloride	0.33	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW006	567258	bis(2-Ethylhexyl)phthalate	1.00	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW007	567250	Chloroform	0.29	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW007	567250	Methylene chloride	0.15	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW007	567283	Antimony	56.50	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW007	567257	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW008	567256	Methylene chloride	0.34	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-TF4-SW008	567303	Copper	5.40	0.00	(B)	ug/l	07/30/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TF4-SW106	567255	Methylene chloride	0.37	0.00	B	ug/l	07/30/93	COMPUCHEM
PC-SF5-MW1-GW4	571264	Toluene	0.11	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-SF5-MW1-GW4	571313	Antimony, Dissolved	49.90	0.00	QB	ug/l	08/15/93	COMPUCHEM
PC-SF5-MW1-GW4	571313	Arsenic, Dissolved	22.10	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-SF5-MW1-GW4	571297	Cadmium	4.70	0.00	QB	ug/l	08/15/93	COMPUCHEM
PC-SF5-MW1-GW4	571297	Zinc	14.80	0.00	QB	ug/l	08/15/93	COMPUCHEM
PC-SF5-MW1-GW4	571313	Zinc, Dissolved	4.20	0.00	QB	ug/l	08/15/93	COMPUCHEM
PC-SF5-MW1-GW4	571276	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-SF5-MW1-GW4	571298	Total Petroleum Hydrocarbons	5.80	0.25	B	mg/l	08/15/93	COMPUCHEM
PC-SF5-MW2-GW4	574053	Methylene chloride	0.11	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574053	1,2-Dichlorobenzene	2.20	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574053	Ethylbenzene	0.09	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574053	Toluene	0.14	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574064	Copper	5.90	0.00	QB	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574064	Zinc	33.60	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574080	Zinc, Dissolved	27.90	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574059	Phenol	0.70	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574059	bis(2-Ethylhexyl)phthalate	1.00	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW2-GW4	574076	Total Petroleum Hydrocarbons	1.70	0.25	B	mg/l	08/24/93	COMPUCHEM
PC-SF5-MW3-GW4	573653	Toluene	0.11	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW3-GW4	573656	Copper	6.80	0.00	QB	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW3-GW4	573656	Zinc	74.50	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW3-GW4	573654	Di-n-butyl phthalate	1.00	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW3-GW4	573654	bis(2-Ethylhexyl)phthalate	11.00	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW3-GW4	573655	Total Petroleum Hydrocarbons	3.80	0.25	B	mg/l	08/24/93	COMPUCHEM
PC-SF5-MW4-GW4	574052	Methylene chloride	0.44	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW4-GW4	574052	1,2-Dichlorobenzene	0.28	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW4-GW4	574052	Ethylbenzene	0.10	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW4-GW4	574052	Toluene	0.23	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW4-GW4	574063	Zinc	13.00	0.00	QB	ug/l	08/24/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-SF5-MW4-GW4	574075	Zinc, Dissolved	65.30	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW4-GW4	574058	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-SF5-MW5-GW4	575028	1,1,1-Trichloroethane	0.08	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW5-GW4	575028	Chloroform	0.17	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW5-GW4	575028	Methylene chloride	0.74	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW5-GW4	575030	Antimony	38.50	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW5-GW4	575030	Copper	4.40	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW5-GW4	575030	Selenium	9.50	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW5-GW4	575030	Zinc	7.10	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW5-GW4	576981	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-SF5-MW5-GW4	575031	Total Petroleum Hydrocarbons	0.30	0.25	B	mg/l	08/29/93	COMPUCHEM
PC-SF5-MW6-GW4	574969	Copper	10.10	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW6-GW4	574969	Zinc	33.60	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW6-GW4	574972	Zinc, Dissolved	9.40	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW6-GW4	576977	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-SF5-MW6-GW4	574970	Total Petroleum Hydrocarbons	1.10	0.25	B	mg/l	09/29/93	COMPUCHEM
PC-SF5-MW7-GW4	575020	Methylene chloride	0.39	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW7-GW4	575022	Selenium	7.50	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW7-GW4	575022	Zinc	14.70	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW7-GW4	575027	Zinc, Dissolved	18.20	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-SF5-MW7-GW4	576985	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-SF5-MW7-GW4	575026	Total Petroleum Hydrocarbons	1.00	0.25	B	mg/l	08/29/93	COMPUCHEM
PC-SF5-MW8-GW4	576959	Methylene chloride	0.28	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW8-GW4	576959	1,2-Dichlorobenzene	0.43	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW8-GW4	576959	1,3-Dichlorobenzene	0.15	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW8-GW4	576959	1,4-Dichlorobenzene	0.38	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW8-GW4	576959	Toluene	0.39	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW8-GW4	577018	Arsenic, Dissolved	4.20	0.00	QB	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW8-GW4	576969	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW9-GW4	576954	Methylene chloride	0.30	0.00	B	ug/l	09/13/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-SF5-MW9-GW4	576954	1,2-Dichlorobenzene	0.11	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW9-GW4	576954	Toluene	0.18	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW9-GW4	577013	Arsenic, Dissolved	4.50	0.00	(B)	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW9-GW4	576966	Phenol	0.50	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-SF5-MW9-GW4	576966	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-LF6-MW1-GW4	570412	1,2-Dichlorobenzene	0.86	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-LF6-MW1-GW4	570412	1,3-Dichlorobenzene	0.20	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-LF6-MW1-GW4	570412	1,4-Dichlorobenzene	0.19	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-LF6-MW1-GW4	570412	Toluene	0.16	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-LF6-MW1-GW4	570419	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-LF6-MW1-GW4	570449	Total Petroleum Hydrocarbons	1.60	0.25	B	mg/l	08/12/93	COMPUCHEM
PC-LF6-MW10-GW4	578083	Methylene chloride	0.10	0.00	B	ug/l	09/16/93	COMPUCHEM
PC-LF6-MW10-GW4	578095	Arsenic, Dissolved	4.60	0.00	(B)	ug/l	09/16/93	COMPUCHEM
PC-LF6-MW10-GW4	578083	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/16/93	COMPUCHEM
PC-LF6-MW10-GW4	578092	Total Petroleum Hydrocarbons	0.90	0.25	B	mg/l	09/16/93	COMPUCHEM
PC-LF6-MW2-GW4	570193	1,2-Dichlorobenzene	0.58	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-LF6-MW2-GW4	570193	Toluene	0.15	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-LF6-MW2-GW4	570203	Antimony	48.40	0.00	(B)	ug/l	08/11/93	COMPUCHEM
PC-LF6-MW2-GW4	570203	Zinc	6.90	0.00	(B)	ug/l	08/11/93	COMPUCHEM
PC-LF6-MW2-GW4	570187	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-LF6-MW2-GW4	570210	Total Petroleum Hydrocarbons	0.50	0.25	B	mg/l	08/11/93	COMPUCHEM
PC-LF6-MW3-GW4	574377	Copper	4.20	0.00	(B)	ug/l	08/26/93	COMPUCHEM
PC-LF6-MW3-GW4	574377	Zinc	4.30	0.00	(B)	ug/l	08/26/93	COMPUCHEM
PC-LF6-MW3-GW4	574408	Di-n-butyl phthalate	0.80	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-LF6-MW3-GW4	574408	Diethyl phthalate	0.70	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-LF6-MW3-GW4	574408	Phenol	3.00	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-LF6-MW3-GW4	574408	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-LF6-MW3-GW4	574411	Total Petroleum Hydrocarbons	0.50	0.25	B	mg/l	08/26/93	COMPUCHEM
PC-LF6-MW4-GW4	574951	Methylene chloride	0.34	0.00	B	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW4-GW4	574955	Copper	8.20	0.00	(B)	ug/l	08/30/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-LF6-MW4-GW4	574955	Zinc	20.40	0.00	B	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW4-GW4	574959	Zinc, Dissolved	8.80	0.00	QB	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW4-GW4	576976	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-LF6-MW4-GW4	574957	Total Petroleum Hydrocarbons	0.50	0.25	B	mg/l	08/30/93	COMPUCHEM
PC-LF6-MW5-GW4	574933	Methylene chloride	0.35	0.00	B	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW5-GW4	574933	1,2-Dichlorobenzene	0.15	0.00	B	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW5-GW4	574936	Copper	4.90	0.00	QB	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW5-GW4	574936	Zinc	11.60	0.00	QB	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW5-GW4	574938	Zinc, Dissolved	10.00	0.00	QB	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW5-GW4	576975	bis(2-Ethylhexyl)phthalate	9.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-LF6-MW6-GW4	575017	Antimony	35.20	0.00	QB	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW6-GW4	575017	Copper	5.20	0.00	QB	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW6-GW4	575017	Zinc	67.70	0.00	B	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW6-GW4	575019	Zinc, Dissolved	38.20	0.00	B	ug/l	08/30/93	COMPUCHEM
PC-LF6-MW6-GW4	576986	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-LF6-MW6-GW4	575018	Total Petroleum Hydrocarbons	2.30	0.25	B	mg/l	08/30/93	COMPUCHEM
PC-LF6-MW8-GW4	576281	Methylene chloride	0.42	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW8-GW4	576281	1,2-Dichlorobenzene	1.00	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW8-GW4	576281	1,3-Dichlorobenzene	0.27	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW8-GW4	576281	1,4-Dichlorobenzene	0.27	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW8-GW4	576279	bis(2-Ethylhexyl)phthalate	8.00	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW8-GW4	576283	Total Petroleum Hydrocarbons	0.60	0.25	B	mg/l	09/08/93	COMPUCHEM
PC-LF6-MW9-GW4	576285	Methylene chloride	0.68	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW9-GW4	576285	1,2-Dichlorobenzene	2.40	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW9-GW4	576285	1,3-Dichlorobenzene	0.19	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW9-GW4	576285	1,4-Dichlorobenzene	0.21	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW9-GW4	576286	Antimony	42.40	0.00	QB	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW9-GW4	576286	Selenium	24.50	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW9-GW4	576284	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-LF6-MW9-GW4	571972	1,1,1-Trichloroethane	3.30	0.00	B	ug/kg	08/17/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-LF6-SD1	571972	Chloroform	1.20	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD1	571972	Methylene chloride	1.90	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD1	572014	Arsenic	2.50	0.00	QB	mg/kg	08/17/93	COMPUCHEM
PC-LF6-SD1	572014	Zinc	20.70	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-LF6-SD2	571967	Chloroform	0.38	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD2	571967	Methylene chloride	4.80	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD2	571967	1,2-Dichlorobenzene	0.23	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD2	572000	Arsenic	11.90	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-LF6-SD2	572000	Zinc	199.00	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-LF6-SD3	571968	Chloroform	0.23	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD3	571968	Methylene chloride	1.70	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD3	572005	Arsenic	2.80	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-LF6-SD3	572005	Zinc	80.70	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-LF6-SD4	571973	1,1,1-Trichloroethane	0.72	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD4	571973	Chloroform	0.61	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD4	571973	Methylene chloride	1.50	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-LF6-SD4	572019	Arsenic	2.00	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-LF6-SD4	572019	Selenium	0.97	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-LF6-SD4	572019	Zinc	67.40	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-FF7-MW1-GW4	576484	1,1,1-Trichloroethane	0.08	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-FF7-MW1-GW4	576484	Methylene chloride	0.32	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-FF7-MW1-GW4	576484	1,3-Dichlorobenzene	4.60	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-FF7-MW1-GW4	576494	Antimony, Dissolved	42.50	0.00	QB	ug/l	09/09/93	COMPUCHEM
PC-FF7-MW1-GW4	576488	Selenium	3.30	0.00	QB	ug/l	09/09/93	COMPUCHEM
PC-FF7-MW1-GW4	576486	Di-n-butyl phthalate	1.00	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-FF7-MW1-GW4	576486	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-FF7-MW2-GW4	577486	Methylene chloride	0.16	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-FF7-MW2-GW4	577486	1,3-Dichlorobenzene	0.14	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-FF7-MW2-GW4	577486	Toluene	0.36	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-FF7-MW2-GW4	577507	Selenium	3.00	0.00	QB	ug/l	09/14/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-FF7-MW2-GW4	577487	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-FF7-MW2-GW4	577505	Total Petroleum Hydrocarbons	0.60	0.25	B	mg/l	09/14/93	COMPUCHEM
PC-FF7-MW3-GW4	577695	Methylene chloride	0.24	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-FF7-MW3-GW4	577712	Arsenic, Dissolved	4.10	0.00	QB	ug/l	09/15/93	COMPUCHEM
PC-FF7-MW3-GW4	577710	Selenium	3.40	0.00	QB	ug/l	09/15/93	COMPUCHEM
PC-FF7-MW3-GW4	577700	Di-n-butyl phthalate	0.90	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-FF7-MW3-GW4	577700	bis(2-Ethylhexyl)phthalate	11.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-FF7-MW3-GW4	577711	Total Petroleum Hydrocarbons	0.80	0.25	B	mg/l	09/15/93	COMPUCHEM
PC-HN8-MW1-GW4	571260	Methylene chloride	0.11	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-HN8-MW1-GW4	571260	1,3-Dichlorobenzene	0.53	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-HN8-MW1-GW4	571286	Antimony	52.30	0.00	QB	ug/l	08/15/93	COMPUCHEM
PC-HN8-MW1-GW4	571628	Antimony, Dissolved	46.10	0.00	QB	ug/l	08/15/93	COMPUCHEM
PC-HN8-MW1-GW4	571628	Lead, Dissolved	4.80	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-HN8-MW1-GW4	571271	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-HN8-MW1-GW4	571287	Total Petroleum Hydrocarbons	2.30	0.25	B	mg/l	08/15/93	COMPUCHEM
PC-HN8-MW2-GW4	574927	Methylene chloride	0.83	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW2-GW4	574927	1,4-Dichlorobenzene	0.25	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW2-GW4	574927	Toluene	0.24	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW2-GW4	574930	Zinc	9.20	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW2-GW4	574932	Zinc, Dissolved	15.90	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW2-GW4	576995	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-HN8-MW2-GW4	574931	Total Petroleum Hydrocarbons	0.60	0.25	B	mg/l	08/29/93	COMPUCHEM
PC-HN8-MW3-GW4	574989	Methylene chloride	0.50	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW3-GW4	574994	Zinc	7.90	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW3-GW4	574997	Zinc, Dissolved	6.80	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW3-GW4	576989	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-HN8-MW3-GW4	574996	Total Petroleum Hydrocarbons	1.00	0.25	B	mg/l	08/29/93	COMPUCHEM
PC-HN8-MW4-GW4	575003	Chloroform	0.33	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW4-GW4	575003	Methylene chloride	0.83	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW4-GW4	575006	Zinc	15.30	0.00	QB	ug/l	08/29/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-HN8-MW4-GW4	575011	Zinc, Dissolved	6.20	0.00	(B)	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW4-GW4	576974	bis(2-Ethylhexyl)phthalate	7.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-HN8-MW5-GW4	577542	Methylene chloride	0.21	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-HN8-MW5-GW4	577542	1,2-Dichlorobenzene	0.14	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-HN8-MW5-GW4	577542	Toluene	0.17	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-HN8-MW5-GW4	577546	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-HN8-MW5-GW4	577548	Total Petroleum Hydrocarbons	0.40	0.25	B	mg/l	09/14/93	COMPUCHEM
PC-HN8-MW9-GW4	574939	Methylene chloride	0.66	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW9-GW4	574939	Toluene	0.15	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW9-GW4	574944	Zinc	6.70	0.00	(B)	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW9-GW4	574949	Zinc, Dissolved	11.80	0.00	(B)	ug/l	08/29/93	COMPUCHEM
PC-HN8-MW9-GW4	576992	bis(2-Ethylhexyl)phthalate	8.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-HN8-MW9-GW4	574946	Total Petroleum Hydrocarbons	0.60	0.25	B	mg/l	08/29/93	COMPUCHEM
PC-HN8-SB2-SS01-02	570778	1,1,1-Trichloroethane	0.08	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS01-02	570778	Chloroform	0.63	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS01-02	570778	Methylene chloride	1.40	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS01-02	570778	1,2-Dimethylbenzene	0.04	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS01-02	570778	Toluene	0.21	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS01-02	570786	Zinc	10.10	0.00	B	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS02-03	570779	1,1,1-Trichloroethane	0.07	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS02-03	570779	Chloroform	0.42	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS02-03	570779	Methylene chloride	1.00	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS02-03	570779	1,2-Dimethylbenzene	0.03	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS02-03	570779	Toluene	0.21	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS02-03	570788	Zinc	5.60	0.00	B	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS09-10	570780	1,1,1-Trichloroethane	0.13	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS09-10	570780	Chloroform	0.97	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS09-10	570780	Methylene chloride	1.20	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS09-10	570780	1,4-Dichlorobenzene	0.13	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB2-SS09-10	570780	Toluene	0.25	0.00	B	ug/kg	08/13/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-HN8-SB2-SS09-10	570795	Zinc	4.70	0.00	B	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	Chloroform	0.55	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	Methylene chloride	1.60	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,2-Dimethylbenzene	0.12	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,3-Dichlorobenzene	0.04	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570781	1,4-Dichlorobenzene	0.13	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS01-02	570798	Zinc	8.50	0.00	B	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS09-11	570782	1,1,1-Trichloroethane	0.07	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS09-11	570782	Chloroform	0.24	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS09-11	570782	Methylene chloride	0.48	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS09-11	570782	1,2-Dimethylbenzene	0.30	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS09-11	570782	Styrene	0.15	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB3-SS09-11	570804	Zinc	4.20	0.00	B	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS00-02	570783	Chloroform	0.22	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS00-02	570783	Methylene chloride	0.31	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS00-02	570783	1,2-Dimethylbenzene	0.21	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS00-02	570783	Toluene	0.12	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS00-02	570807	Zinc	13.30	0.00	B	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS12-14	570784	Chloroform	0.20	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS12-14	570784	Methylene chloride	0.43	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS12-14	570784	1,2-Dimethylbenzene	0.13	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS12-14	570784	Toluene	0.19	0.00	B	ug/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS12-14	570810	Zinc	4.60	0.00	B	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB4-SS12-14	570811	Total Petroleum Hydrocarbons	7.30	6.30	B	mg/kg	08/13/93	COMPUCHEM
PC-HN8-SB6-SS00-02	571327	1,1,1-Trichloroethane	0.26	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB6-SS00-02	571327	Chloroform	0.61	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB6-SS00-02	571364	Arsenic	2.50	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB6-SS00-02	571364	Zinc	15.00	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB6-SS12-13	571320	Chloroform	0.51	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB6-SS12-13	571320	Methylene chloride	5.70	0.00	B	ug/kg	08/15/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-HN8-SB6-SS12-13	571348	Arsenic	1.20	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB6-SS12-13	571348	Lead	0.72	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB6-SS12-13	571348	Zinc	6.80	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS00-02	571335	Chloroform	0.48	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS00-02	571335	Methylene chloride	5.10	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS00-02	571335	Toluene	0.23	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS00-02	571399	Arsenic	0.62	0.00	QB	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS00-02	571399	Lead	1.70	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS00-02	571399	Zinc	17.60	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS12-13	571324	1,1,1-Trichloroethane	0.20	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS12-13	571324	Chloroform	0.82	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS12-13	571324	Methylene chloride	2.80	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS12-13	571324	Toluene	0.21	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS12-13	571360	Arsenic	0.52	0.00	QB	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS12-13	571360	Lead	1.00	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB7-SS12-13	571360	Zinc	5.50	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-HN8-SB8-SS01-02	571690	1,1,1-Trichloroethane	0.10	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS01-02	571690	Chloroform	0.78	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS01-02	571690	Methylene chloride	12.00	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS01-02	571692	Arsenic	1.20	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS01-02	571692	Lead	1.10	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS01-02	571692	Zinc	11.10	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS09-10	571700	Chloroform	0.62	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS09-10	571700	Methylene chloride	2.70	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS09-10	571705	Arsenic	0.43	0.00	QB	mg/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS09-10	571705	Lead	0.76	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS09-10	571705	Zinc	7.30	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS10-12	571683	Chloroform	0.59	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS10-12	571683	Methylene chloride	7.30	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS10-12	571686	Arsenic	0.56	0.00	QB	mg/kg	08/17/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-HN8-SB8-SS10-12	571686	Lead	0.88	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS10-12	571686	Zinc	5.80	0.00	B	mg/kg	08/17/93	COMPUCHEM
PC-HN8-SB8-SS10-12	571685	bis(2-Ethylhexyl)phthalate	35.00	0.00	B	ug/kg	08/17/93	COMPUCHEM
PC-RT9-MW1-GW4	574560	Methylene chloride	0.26	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW1-GW4	574573	Zinc	32.00	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW1-GW4	574585	Zinc, Dissolved	4.40	0.00	QB	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW1-GW4	574569	Diethyl phthalate	0.60	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW1-GW4	574569	Phenol	2.00	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW1-GW4	574569	bis(2-Ethylhexyl)phthalate	7.00	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW1-GW4	574577	Total Petroleum Hydrocarbons	0.40	0.25	B	mg/l	08/27/93	COMPUCHEM
PC-RT9-MW2-GW4	574574	Antimony	35.30	0.00	QB	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW2-GW4	574574	Beryllium	1.00	0.00	QB	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW2-GW4	574574	Zinc	103.00	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW2-GW4	574587	Zinc, Dissolved	10.60	0.00	QB	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW2-GW4	574570	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW2-GW4	574579	Total Petroleum Hydrocarbons	0.80	0.25	B	mg/l	08/27/93	COMPUCHEM
PC-RT9-MW3-GW4	574565	1,1,1-Trichloroethane	0.07	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW3-GW4	574565	Methylene chloride	0.23	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW3-GW4	574575	Beryllium	1.00	0.00	QB	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW3-GW4	574575	Zinc	77.80	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW3-GW4	574571	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-RT9-MW3-GW4	574580	Total Petroleum Hydrocarbons	0.60	0.25	B	mg/l	08/27/93	COMPUCHEM
PC-RT9-MW4-GW4	576289	Methylene chloride	0.81	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-RT9-MW4-GW4	576289	1,3-Dichlorobenzene	0.75	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-RT9-MW4-GW4	576290	Antimony	61.60	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-RT9-MW4-GW4	576290	Selenium	22.70	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-RT9-MW4-GW4	576288	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-RT9-MW4-GW4	576291	Total Petroleum Hydrocarbons	0.40	0.25	B	mg/l	09/08/93	COMPUCHEM
PC-RT9-MW5-GW4	574566	Methylene chloride	0.83	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-RT9-MW5-GW4	574566	1,4-Dichlorobenzene	0.18	0.00	B	ug/l	08/26/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RD L	Qual	Units	Date	Laboratory
PC-RT9-MW5-GW4	574566	Toluene	0.22	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-RT9-MW5-GW4	577702	Di-n-butyl phthalate	0.60	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-RT9-MW5-GW4	577702	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-RT9-MW5-GW4	574584	Total Petroleum Hydrocarbons	1.10	0.25	B	mg/l	08/26/93	COMPUCHEM
PC-RT9-MW6-GW4	577696	Methylene chloride	0.19	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-RT9-MW6-GW4	577696	1,3-Dichlorobenzene	0.19	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-RT9-MW6-GW4	577701	Di-n-butyl phthalate	1.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-RT9-MW6-GW4	577701	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-RT9-MW6-GW4	577714	Total Petroleum Hydrocarbons	1.40	0.25	B	mg/l	09/15/93	COMPUCHEM
PC-RT9-SB10-SS01-02	522279	Chloroform	0.77	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS01-02	522279	Methylene chloride	3.70	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS01-02	522311	Arsenic	0.65	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS01-02	522311	Barium	7.90	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS01-02	522311	Cobalt	1.20	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS01-02	522311	Magnesium	490.00	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS01-02	522311	Sodium	81.40	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS01-02	522311	Vanadium	5.10	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS01-02	522311	Zinc	4.90	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS10-12	522280	Chloroform	1.30	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS10-12	522280	Methylene chloride	1.70	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS10-12	522280	Methyl-t-Butyl Ether	5.20	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS10-12	522312	Arsenic	0.67	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS10-12	522312	Barium	2.70	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS10-12	522312	Sodium	121.00	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS10-12	522312	Vanadium	3.10	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB10-SS10-12	522312	Zinc	3.50	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522281	Chloroform	1.50	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522281	Methylene chloride	2.00	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522281	1,3-Dichlorobenzene	0.41	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522281	Toluene	0.20	0.00	B	ug/kg	11/12/92	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-RT9-SB11-SS01-02	522313	Arsenic	0.52	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522313	Barium	7.60	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522313	Cobalt	1.20	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522313	Magnesium	504.00	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522313	Sodium	87.30	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522313	Zinc	4.30	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS01-02	522298	Di-n-butyl phthalate	72.00	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522284	Chloroform	0.84	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522284	Methylene chloride	5.30	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522284	1,3-Dichlorobenzene	0.50	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522284	Toluene	0.41	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522314	Arsenic	0.45	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522314	Barium	2.50	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522314	Sodium	102.00	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522314	Vanadium	2.70	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522314	Zinc	3.30	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB11-SS12-14	522299	Di-n-butyl phthalate	52.00	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB12-SS01-02	522588	Chloroform	0.51	0.00	B	ug/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS01-02	522588	Methylene chloride	9.40	0.00	B	ug/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS01-02	525558	Arsenic	0.75	0.00	B	mg/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS01-02	525558	Beryllium	0.26	0.00	B	mg/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS01-02	525558	Zinc	6.00	0.00	B	mg/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS01-02	522589	Di-n-butyl phthalate	86.00	0.00	B	ug/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS05-07	522574	1,2-Dichlorobenzene	0.92	0.00	B	ug/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS05-07	525548	Arsenic	0.65	0.00	B	mg/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS05-07	525548	Zinc	6.70	0.00	B	mg/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS05-07	522578	Di-n-butyl phthalate	55.00	0.00	B	ug/kg	11/13/92	COMPUCHEM
PC-RT9-SB12-SS05-07	522277	1,1,1-Trichloroethane	0.24	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522277	Chloroform	1.20	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522277	Methylene chloride	3.10	0.00	B	ug/kg	11/12/92	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-RT9-SB7-SS01-02	522309	Arsenic	0.65	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522309	Barium	13.00	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522309	Calcium	495.00	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522309	Cobalt	1.30	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522309	Magnesium	515.00	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522309	Sodium	84.10	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522309	Zinc	6.80	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS01-02	522294	Di-n-butyl phthalate	150.00	0.00	BJ	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522276	1,1,1-Trichloroethane	0.17	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522276	Chloroform	0.72	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522276	Methylene chloride	2.20	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522276	1,2-Dichlorobenzene	0.08	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522276	1,3-Dichlorobenzene	0.49	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522276	Toluene	0.43	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522308	Arsenic	0.44	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522308	Barium	4.40	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522308	Calcium	495.00	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522308	Cobalt	1.40	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522308	Sodium	95.20	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522308	Zinc	5.00	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS05-07	522293	Di-n-butyl phthalate	190.00	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522271	1,1,1-Trichloroethane	0.10	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522271	Chloroform	1.10	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522271	1,2-Dichlorobenzene	0.19	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522271	1,3-Dichlorobenzene	0.06	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522271	1,4-Dichlorobenzene	0.55	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522271	Ethylbenzene	0.22	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522271	Styrene	0.07	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522271	Toluene	0.66	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522300	Arsenic	0.90	0.00	BQ	mg/kg	11/12/92	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTIC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-RT9-SB7-SS15-17	522300	Barium	2.80	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522300	Sodium	113.00	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522300	Vanadium	3.30	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522300	Zinc	3.60	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS15-17	522285	Di-n-butyl phthalate	320.00	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522272	1,1,1-Trichloroethane	0.20	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522272	Chloroform	1.10	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522272	Methylene chloride	4.80	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522272	1,2-Dichlorobenzene	0.14	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522272	1,3-Dichlorobenzene	0.28	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522272	1,4-Dichlorobenzene	0.20	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522272	Ethylbenzene	0.38	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522272	Toluene	0.56	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522304	Arsenic	0.65	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522304	Barium	2.80	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522304	Sodium	105.00	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522304	Vanadium	3.40	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522304	Zinc	3.40	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB7-SS21-22	522289	Di-n-butyl phthalate	240.00	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522275	Chloroform	0.34	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522275	Methylene chloride	0.97	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522275	1,3-Dichlorobenzene	0.07	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522275	1,4-Dichlorobenzene	1.10	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522275	Toluene	0.47	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522307	Arsenic	0.71	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522307	Barium	5.60	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522307	Calcium	358.00	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522307	Cobalt	1.20	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522307	Sodium	89.30	0.00	B0	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS01-02	522307	Zinc	4.50	0.00	B	mg/kg	11/12/92	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-RT9-SB8-SS01-02	522292	Di-n-butyl phthalate	210.00	0.00	BJ	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	1,1,1-Trichloroethane	0.11	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	Chloroform	0.86	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	Methylene chloride	2.90	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	1,2-Dichlorobenzene	0.11	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	1,3-Dichlorobenzene	0.08	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	1,4-Dichlorobenzene	0.77	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	Ethylbenzene	0.10	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	Styrene	0.09	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522273	Toluene	0.64	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522305	Arsenic	0.66	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522305	Barium	2.30	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522305	Sodium	105.00	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522305	Vanadium	2.50	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522305	Zinc	3.40	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB8-SS15-17	522290	Di-n-butyl phthalate	230.00	0.00	BJ	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522274	1,1,1-Trichloroethane	0.23	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522274	Chloroform	1.10	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522274	Methylene chloride	4.20	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522274	1,3-Dichlorobenzene	0.61	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522274	Ethylbenzene	0.17	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522274	Toluene	0.52	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522306	Barium	10.20	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522306	Sodium	97.30	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522306	Zinc	5.60	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS01-02	522291	Di-n-butyl phthalate	230.00	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS15-17	522278	Chloroform	1.80	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS15-17	522278	Methylene chloride	1.50	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS15-17	522310	Arsenic	0.51	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS15-17	522310	Barium	3.70	0.00	BQ	mg/kg	11/12/92	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-RT9-SB9-SS15-17	522310	Sodium	138.00	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS15-17	522310	Vanadium	4.10	0.00	BQ	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS15-17	522310	Zinc	3.90	0.00	B	mg/kg	11/12/92	COMPUCHEM
PC-RT9-SB9-SS15-17	522295	Di-n-butyl phthalate	210.00	0.00	B	ug/kg	11/12/92	COMPUCHEM
PC-BG1-SB1-SS00-01	569291	1,1,1-Trichloroethane	0.07	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS00-01	569291	Chloroform	1.00	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS00-01	569291	Methylene chloride	3.00	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS00-01	569297	Zinc	11.40	0.00	B	mg/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS02-03	569292	1,1,1-Trichloroethane	0.27	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS02-03	569292	Chloroform	0.91	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS02-03	569292	Methylene chloride	2.50	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS02-03	569298	Zinc	3.80	0.00	B	mg/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS09-10	569293	1,1,1-Trichloroethane	0.10	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS09-10	569293	Chloroform	0.83	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS09-10	569293	Methylene chloride	1.80	0.00	B	ug/kg	08/09/93	COMPUCHEM
PC-BG1-SB1-SS09-10	569299	Zinc	3.80	0.00	B	mg/kg	08/09/93	COMPUCHEM
PC-BG1-SB2-SS00-01	571322	1,1,1-Trichloroethane	0.05	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS00-01	571322	Chloroform	0.79	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS00-01	571322	Methylene chloride	3.40	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS00-01	571322	Toluene	0.25	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS00-01	571352	Lead	1.40	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS00-01	571352	Zinc	15.30	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS02-03	571330	Chloroform	0.92	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS02-03	571330	1,4-Dichlorobenzene	0.11	0.00	B	ug/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS02-03	571379	Arsenic	1.70	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS02-03	571379	Lead	1.40	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS02-03	571379	Zinc	9.60	0.00	B	mg/kg	08/15/93	COMPUCHEM
PC-BG1-SB2-SS02-03	569853	1,2-Dichlorobenzene	0.76	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW1-GW4	569853	Toluene	0.12	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW1-GW4	569862	Antimony	44.40	0.00	B	ug/l	08/10/93	COMPUCHEM

wp01-12.540-October 12, 1994

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-PW-PW1-GW4	569867	Antimony, Dissolved	38.50	0.00	QB	ug/l	08/10/93	COMPUCHEM
PC-PW-PW1-GW4	569862	Copper	4.60	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW1-GW4	569874	bis(2-Ethylhexyl)phthalate	1.00	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW2-GW4	569854	1,2-Dichlorobenzene	0.31	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW2-GW4	569854	1,4-Dichlorobenzene	0.36	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW2-GW4	569854	Toluene	0.17	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW2-GW4	569863	Copper	4.10	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW2-GW4	569877	bis(2-Ethylhexyl)phthalate	0.60	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW3-GW4	569860	1,2-Dichlorobenzene	0.23	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW3-GW4	569860	1,4-Dichlorobenzene	0.38	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW3-GW4	569860	Toluene	0.18	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-PW-PW3-GW4	569883	bis(2-Ethylhexyl)phthalate	0.90	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-EB01	522051	Chloroform	0.17	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-EB01	522051	Methylene chloride	2.40	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-EB01	522053-EB1	bis(2-Ethylhexyl)phthalate	69.00	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-EB01	525534	Zinc	5.30	0.00	QB	ug/l	11/12/92	COMPUCHEM
PC-EB02	522051-EB2	Chloroform	0.20	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-EB02	522051-EB2	Methylene chloride	2.60	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-EB02	522053	Diethyl phthalate	2.00	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-EB02	522053	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-EB02	525534-EB2	Zinc	5.30	0.00	QB	ug/l	11/12/92	COMPUCHEM
PC-ER01	567253	Methylene chloride	0.11	0.00	B	ug/l	07/29/93	COMPUCHEM
PC-ER03	567576	Toluene	0.13	0.00	B	ug/l	07/31/93	COMPUCHEM
PC-ER03	567579	Copper	4.60	0.00	QB	ug/l	07/31/93	COMPUCHEM
PC-ER04	567708	1,2-Dichlorobenzene	0.07	0.00	B	ug/l	08/01/93	COMPUCHEM
PC-ER04	567708	Toluene	0.29	0.00	B	ug/l	08/01/93	COMPUCHEM
PC-ER04	567709	bis(2-Ethylhexyl)phthalate	9.00	0.00	B	ug/l	08/01/93	COMPUCHEM
PC-ER05	570413	1,2-Dichlorobenzene	0.29	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-ER05	570413	1,3-Dichlorobenzene	0.07	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-ER05	570413	1,4-Dichlorobenzene	0.62	0.00	B	ug/l	08/12/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-ER05	570413	Toluene	0.16	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-ER05	570450	Antimony	60.50	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-ER05	570463	Antimony, Dissolved	36.20	0.00	(B)	ug/l	08/12/93	COMPUCHEM
PC-ER07	571263	Toluene	0.25	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-ER07	571274	bis(2-Ethylhexyl)phthalate	3.00	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-ER08	571310	Antimony, Dissolved	76.90	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-ER08	571269	bis(2-Ethylhexyl)phthalate	8.00	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-ER09	571261	1,2-Dichlorobenzene	1.40	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-ER09	571261	Toluene	0.18	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-ER09	571272	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	08/15/93	COMPUCHEM
PC-ER10	571672	Methylene chloride	0.76	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER10	571672	1,2-Dichlorobenzene	0.40	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER10	571672	1,4-Dichlorobenzene	0.37	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER10	571672	Toluene	0.12	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER10	571674	Copper	4.50	0.00	(B)	ug/l	08/17/93	COMPUCHEM
PC-ER11	571952	Methylene chloride	0.99	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER11	571952	Benzene	0.08	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER11	571952	Toluene	0.39	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER11	571957	Copper	4.50	0.00	(B)	ug/l	08/17/93	COMPUCHEM
PC-ER12	571951	Methylene chloride	0.98	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER12	571951	Benzene	0.07	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER12	571951	Toluene	0.28	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-ER13	573664	1,4-Dichlorobenzene	0.25	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-ER13	573664	Toluene	0.19	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-ER13	573665	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-ER14	574364	1,1,1-Trichloroethane	0.07	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER14	574364	Methylene chloride	0.29	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER14	574399	Copper, Dissolved	5.70	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER14	574382	Zinc	5.80	0.00	(B)	ug/l	08/26/93	COMPUCHEM
PC-ER14	574418	Di-n-butyl phthalate	1.00	0.00	B	ug/l	08/26/93	COMPUCHEM

wpj-12,540-October 12, 1994

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-ER14	574418	Diethyl phthalate	1.00	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER14	574418	Phenol	5.00	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER15	574349	Methylene chloride	0.15	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER15	574349	1,2-Dichlorobenzene	0.66	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER15	574349	Ethylbenzene	0.10	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER15	574349	Toluene	0.17	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER15	574373	Zinc	21.40	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER15	574401	bis(2-Ethylhexyl)phthalate	8.00	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER16	574366	1,1,1-Trichloroethane	0.10	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER16	574366	Methylene chloride	0.29	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER16	574388	Zinc	8.80	0.00	QB	ug/l	08/26/93	COMPUCHEM
PC-ER16	574423	bis(2-Ethylhexyl)phthalate	15.00	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-ER17	574973	1,1,1-Trichloroethane	0.25	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-ER17	574973	Chloroform	0.17	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-ER17	574973	Methylene chloride	0.79	0.00	B	ug/l	08/29/93	COMPUCHEM
PC-ER17	574978	Zinc	8.50	0.00	QB	ug/l	08/29/93	COMPUCHEM
PC-ER17	576997	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	09/12/93	COMPUCHEM
PC-ER18	576688	Methylene chloride	0.30	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-ER18	576688	1,2-Dichlorobenzene	0.38	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-ER18	576688	1,3-Dichlorobenzene	0.18	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-ER18	576688	Toluene	0.39	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-ER18	576674	Zinc	6.80	0.00	QB	ug/l	09/10/93	COMPUCHEM
PC-ER18	576690	bis(2-Ethylhexyl)phthalate	10.00	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-ER19	576962	Chloroform	0.17	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-ER19	576962	Methylene chloride	0.77	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-ER19	576962	1,3-Dichlorobenzene	0.18	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-ER19	576962	1,4-Dichlorobenzene	0.59	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-ER19	576962	Toluene	0.22	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-ER19	576971	bis(2-Ethylhexyl)phthalate	14.00	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-ER20	577481	Methylene chloride	0.30	0.00	B	ug/l	09/14/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-ER20	577481	1,3-Dichlorobenzene	0.15	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-ER20	577481	1,4-Dichlorobenzene	0.37	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-ER20	577481	Toluene	0.24	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-ER20	577482	bis(2-Ethylhexyl)phthalate	5.00	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-ER21	578082	Methylene chloride	0.60	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-ER21	578085	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-FB01	522262	Chloroform	0.98	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-FB01	566786	Methylene chloride	2.00	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-FB01	522262	Methylene chloride	3.70	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-FB01	522262	1,2-Dichlorobenzene	1.40	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-FB01	522262	Toluene	0.22	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-FB01	566790	Copper	4.10	0.00	QB	ug/l	07/28/93	COMPUCHEM
PC-FB01	522263	bis(2-Ethylhexyl)phthalate	2.00	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-FB01	525534-FB1	Zinc	6.50	0.00	QB	ug/l	11/12/92	COMPUCHEM
PC-FB02	566978	Methylene chloride	0.14	0.00	B	ug/l	07/29/93	COMPUCHEM
PC-FB02	566988	Antimony	40.40	0.00	B	ug/l	07/29/93	COMPUCHEM
PC-FB02	522263-FB2	Diethyl phthalate	1.00	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-FB02	522263-FB2	bis(2-Ethylhexyl)phthalate	8.00	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-FB02	525534-FB2	Zinc	23.00	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-FB03	569858	1,2-Dichlorobenzene	0.24	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-FB03	569858	Toluene	0.14	0.00	B	ug/l	08/10/93	COMPUCHEM
PC-FB03	569864	Copper	7.90	0.00	QB	ug/l	08/10/93	COMPUCHEM
PC-FB04	572980	Toluene	0.11	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-FB04	573128	bis(2-Ethylhexyl)phthalate	4.00	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-FB05	572986	Benzene	0.06	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-FB05	572986	Toluene	0.40	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-FB05	572988	Copper	4.50	0.00	QB	ug/l	08/23/93	COMPUCHEM
PC-FB05	573130	bis(2-Ethylhexyl)phthalate	11.00	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-FB06	570192	1,1,1-Trichloroethane	0.21	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-FB06	570192	Methylene chloride	0.14	0.00	B	ug/l	08/11/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-FB06	570186	bis(2-Ethylhexyl)phthalate	9.00	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-FB07	576295	Methylene chloride	0.58	0.00	B	ug/l	09/07/93	COMPUCHEM
PC-FB07	576295	1,2-Dichlorobenzene	0.36	0.00	B	ug/l	09/07/93	COMPUCHEM
PC-FB07	576295	1,3-Dichlorobenzene	0.26	0.00	B	ug/l	09/07/93	COMPUCHEM
PC-FB07	576295	1,4-Dichlorobenzene	0.23	0.00	B	ug/l	09/07/93	COMPUCHEM
PC-FB07	576296	Selenium	8.10	0.00	B	ug/l	09/07/93	COMPUCHEM
PC-FB07	576663	bis(2-Ethylhexyl)phthalate	6.00	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-TB01	566832	Methylene chloride	0.25	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TB01	566832	1,2-Dichlorobenzene	0.36	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TB01	566832	1,4-Dichlorobenzene	0.13	0.00	B	ug/l	07/28/93	COMPUCHEM
PC-TB02	566977	1,3-Dichlorobenzene	0.09	0.00	B	ug/l	07/27/93	COMPUCHEM
PC-TB03	567263	1,2-Dichlorobenzene	0.67	0.00	B	ug/l	07/29/93	COMPUCHEM
PC-TB03	522260	1,2-Dichlorobenzene	0.49	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-TB03	567263	Toluene	0.12	0.00	B	ug/l	07/29/93	COMPUCHEM
PC-TB03	522260	Toluene	0.19	0.00	B	ug/l	11/12/92	COMPUCHEM
PC-TB04	567575	Toluene	0.47	0.00	B	ug/l	07/31/93	COMPUCHEM
PC-TB05	522260-TB5	Chloroform	0.14	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-TB05	522260-TB5	Methylene chloride	1.10	0.00	B	ug/l	11/13/92	COMPUCHEM
PC-TB05	567712	Toluene	0.16	0.00	B	ug/l	08/01/93	COMPUCHEM
PC-TB06	569290	1,2-Dichlorobenzene	0.56	0.00	B	ug/l	08/09/93	COMPUCHEM
PC-TB06	569290	Toluene	0.12	0.00	B	ug/l	08/09/93	COMPUCHEM
PC-TB08	570212	Methylene chloride	0.17	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-TB08	570212	Toluene	0.19	0.00	B	ug/l	08/11/93	COMPUCHEM
PC-TB09	570416	Methylene chloride	0.24	0.00	B	ug/l	08/12/93	COMPUCHEM
PC-TB10	570777	Methylene chloride	0.05	0.00	B	ug/l	08/13/93	COMPUCHEM
PC-TB10	570777	Toluene	0.22	0.00	B	ug/l	08/13/93	COMPUCHEM
PC-TB13	571711	Methylene chloride	0.57	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-TB13	571711	1,2-Dichlorobenzene	0.19	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-TB13	571711	1,4-Dichlorobenzene	0.49	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-TB13	571711	Toluene	0.38	0.00	B	ug/l	08/17/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TB14	571950	Methylene chloride	0.74	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-TB14	571950	Benzene	0.09	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-TB14	571950	Toluene	0.31	0.00	B	ug/l	08/17/93	COMPUCHEM
PC-TB15	572976	1,4-Dichlorobenzene	0.26	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-TB15	572975	Benzene	0.07	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-TB15	572976	Toluene	0.24	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-TB15	572975	Toluene	0.21	0.00	B	ug/l	08/23/93	COMPUCHEM
PC-TB16	573652	Toluene	0.15	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-TB17	574054	Chloroform	0.09	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-TB17	574054	Methylene chloride	0.67	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-TB17	574054	1,2-Dichlorobenzene	1.70	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-TB17	574054	Toluene	0.21	0.00	B	ug/l	08/24/93	COMPUCHEM
PC-TB18	574369	Methylene chloride	0.42	0.00	B	ug/l	08/26/93	COMPUCHEM
PC-TB19	574568	Methylene chloride	0.26	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-TB19	574568	1,4-Dichlorobenzene	0.50	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-TB19	574568	Toluene	0.23	0.00	B	ug/l	08/27/93	COMPUCHEM
PC-TB22	576297	Methylene chloride	0.52	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-TB22	576297	1,2-Dichlorobenzene	0.51	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-TB22	576297	1,3-Dichlorobenzene	0.30	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-TB22	576297	1,4-Dichlorobenzene	0.27	0.00	B	ug/l	09/08/93	COMPUCHEM
PC-TB23	576533	1,2-Dichlorobenzene	0.25	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-TB23	576533	1,3-Dichlorobenzene	0.11	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-TB23	576533	1,4-Dichlorobenzene	0.27	0.00	B	ug/l	09/09/93	COMPUCHEM
PC-TB24	576709	Methylene chloride	0.58	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-TB24	576709	1,2-Dichlorobenzene	0.15	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-TB24	576709	1,4-Dichlorobenzene	0.32	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-TB24	576709	Toluene	0.14	0.00	B	ug/l	09/10/93	COMPUCHEM
PC-TB25	576951	Methylene chloride	0.36	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-TB25	576951	1,3-Dichlorobenzene	0.11	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-TB25	576951	1,4-Dichlorobenzene	0.70	0.00	B	ug/l	09/13/93	COMPUCHEM

Table J - 12 Data Points Qualified "B"
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TB25	576951	Toluene	0.18	0.00	B	ug/l	09/13/93	COMPUCHEM
PC-TB26	577551	Methylene chloride	0.39	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-TB26	577551	1,2-Dichlorobenzene	0.32	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-TB26	577551	1,4-Dichlorobenzene	0.21	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-TB26	577551	Toluene	0.19	0.00	B	ug/l	09/14/93	COMPUCHEM
PC-TB27	577703	Methylene chloride	0.18	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-TB27	577703	1,4-Dichlorobenzene	0.30	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-TB28	578080	Methylene chloride	0.67	0.00	B	ug/l	09/15/93	COMPUCHEM
PC-TB28	578080	1,3-Dichlorobenzene	0.58	0.00	B	ug/l	09/15/93	COMPUCHEM

Table J-13 Field QC Cross Reference
MIANG, Alpena CRTC, Alpena, Michigan

Sample ID	Matrix	Date	Field Blank	Field Blank	Trip Blank	Equipment Rinsate
PC-P1-MW1-GW4	GROUNDWATE	09/15/93	PC-FB7		PC-TB27	PC-ER20
PC-P1-MW11-GW4	GROUNDWATE	09/14/93	PC-FB7		PC-TB26	PC-ER20
PC-P1-MW12-GW4	GROUNDWATE	09/14/93	PC-FB7		PC-TB26	PC-ER20
PC-P1-MW13-GW4	GROUNDWATE	09/14/93	PC-FB7		PC-TB26	PC-ER20
PC-P1-MW14-GW4	GROUNDWATE	09/15/93	PC-FB7		PC-TB27	PC-ER20
PC-P1-MW2-GW4	GROUNDWATE	09/09/93	PC-FB7		PC-TB23	PC-ER18
PC-P1-MW3-GW4	GROUNDWATE	09/10/93	PC-FB7		PC-TB24	PC-ER18
PC-P1-MW4-GW4	GROUNDWATE	09/10/93	PC-FB7		PC-TB24	PC-ER18
PC-P1-MW6-GW4	GROUNDWATE	09/15/93	PC-FB7		PC-TB28	PC-ER21
PC-P1-SB10-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SB10-SS03-04	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SB11-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SB11-SS03-04	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SB12-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SB13-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SB13-SS03-04	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SB4-SS00-01	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB4-SS02-03	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB5-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB5-SS03-04	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB6-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB6-SS03-04	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB7-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB7-SS03-04	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB8-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB8-SS03-04	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER13
PC-P1-SB9-SS00-02	SOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SB9-SS03-04	SUBSOIL	08/24/93	PC-FB4	PC-FB5	PC-TB16	PC-ER15
PC-P1-SD001	SEDIMENT	09/13/93	PC-FB7		PC-TB25	PC-ER19
PC-P1-SD002	SEDIMENT	09/13/93	PC-FB7		PC-TB25	PC-ER19

Table J-13 Field QC Cross Reference
MIANG, Alpena CRTC, Alpena, Michigan

Sample ID	Matrix	Date	Field		Trip	Equipment
			Blank	Blank		
PC-P1-SD003	SEDIMENT	09/13/93	PC-FB7		PC-TB25	PC-ER19
PC-P1-SD005	SEDIMENT	09/13/93	PC-FB7		PC-TB25	PC-ER19
PC-MP2-MW1-GW4	GROUNDWATER	08/10/93	PC-FB1		PC-TB7	PC-ER5F
PC-MP2-MW2-GW4	GROUNDWATER	08/15/93	PC-FB6		PC-TB12	PC-ER8
PC-MP2-MW3-GW4	GROUNDWATER	08/16/93	PC-FB6		PC-TB12	PC-ER8
PC-MP2-MW4-GW4	GROUNDWATER	08/16/93	PC-FB6		PC-TB12	PC-ER8
PC-MP2-MW5-GW4	GROUNDWATER	08/29/93	PC-FB5		PC-TB20	PC-ER17
PC-MP2-MW5-GW4-RE	GROUNDWATER	09/16/93	PC-FB7		PC-TB28	PC-ER17
PC-MP2-MW6-GW4	GROUNDWATER	09/09/93	PC-FB7		PC-TB23	PC-ER18
PC-MP2-MW7-GW4	GROUNDWATER	09/09/93	PC-FB7		PC-TB23	PC-ER18
PC-MP2-SB10-SS00-01	SOIL	09/13/93	PC-FB7		PC-TB25	PC-ER19
PC-MP2-SB10-SS03-04	SUBSOIL	09/13/93	PC-FB7		PC-TB25	PC-ER19
PC-MP2-SB2-SS00-02	SUBSOIL	08/17/93	PC-FB3	PC-FB6	PC-TB14	PC-ER12
PC-MP2-SB2-SS04-05	SUBSOIL	08/17/93	PC-FB3	PC-FB6	PC-TB14	PC-ER12
PC-MP2-SB3-SS00-02	SUBSOIL	08/17/93	PC-FB3	PC-FB6	PC-TB14	PC-ER10
PC-MP2-SB3-SS04-05	SUBSOIL	08/17/93	PC-FB3	PC-FB6	PC-TB14	PC-ER10
PC-MP2-SB4-SS00-02	SUBSOIL	08/17/93	PC-TB3	PC-FB6	PC-TB14	PC-ER12
PC-MP2-SB4-SS04-05	SUBSOIL	08/17/93	PC-TB3	PC-FB6	PC-TB14	PC-ER12
PC-MP2-SB5-SS00-02	SUBSOIL	08/17/93	PC-TB3	PC-FB6	PC-TB14	PC-ER12
PC-MP2-SB5-SS04-05	SUBSOIL	08/17/93	PC-TB3	PC-FB6	PC-TB14	PC-ER12
PC-MP2-SB6-SS00-02	SOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-MP2-SB6-SS05-06	SUBSOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-MP2-SB7-SS00-02	SOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-MP2-SB7-SS05-06	SUBSOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-MP2-SB8-SS00-02	SOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER10
PC-MP2-SB8-SS05-06	SUBSOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER10
PC-MP2-SB9-SS03-04	SUBSOIL	08/16/93	PC-FB3	PC-FB6	PC-TB13	PC-ER10
PC-CG3-MW1-GW4	GROUNDWATER	08/15/93	PC-FB6		PC-TB12	PC-ER8
PC-CG3-MW2-GW4	GROUNDWATER	08/25/93	PC-FB5		PC-TB17	PC-ER14
PC-CG3-MW3-GW4	GROUNDWATER	08/25/93	PC-FB5		PC-TB17	PC-ER14

Table J-13 Field QC Cross Reference
MIANG, Alpena CRTC, Alpena, Michigan

Sample ID	Matrix	Date	Field Blank	Field Blank	Trip Blank	Equipment Rinsate
PC-CG3-MW4-GW4	GROUNDWATE	08/25/93	PC-FB5		PC-TB17	PC-ER14
PC-CG3-MW5-GW4	GROUNDWATE	08/26/93	PC-FB5		PC-TB18	PC-ER14
PC-CG3-MW6-GW4	GROUNDWATE	09/10/93	PC-FB7		PC-TB24	PC-ER18
PC-CG3-MW7-GW4	GROUNDWATE	09/13/93	PC-FB7		PC-TB25	PC-ER18
PC-CG3-SB11-SS00-02	SOIL	08/26/93	PC-FB4	PC-FB5	PC-TB18	PC-ER16
PC-CG3-SB11-SS04-06	SUBSOIL	08/26/93	PC-FB4	PC-FB5	PC-TB19	PC-ER16
PC-CG3-SB11-SS10-12	SUBSOIL	08/26/93	PC-FB4	PC-FB5	PC-TB18	PC-ER16
PC-CG3-SB12-SS00-02	SOIL	08/26/93	PC-FB4	PC-FB5	PC-TB18	PC-ER16
PC-CG3-SB12-SS04-06	SUBSOIL	08/26/93	PC-FB4	PC-FB5	PC-TB19	PC-ER16
PC-CG3-SB12-SS10-12	SUBSOIL	08/26/93	PC-FB4	PC-FB5	PC-TB18	PC-ER16
PC-CG3-SB13-SS00-02	SOIL	08/26/93	PC-FB4	PC-FB5	PC-TB18	PC-ER16
PC-CG3-SB13-SS04-06	SUBSOIL	08/26/93	PC-FB4	PC-FB5	PC-TB19	PC-ER16
PC-TF4-MW1-GW4	GROUNDWATE	08/17/93	PC-FB6		PC-TB13	PC-ER8
PC-TF4-MW2-GW4	GROUNDWATE	08/11/93	PC-FB6		PC-TB8	PC-ER5F
PC-TF4-MW3-GW4	GROUNDWATE	08/11/93	PC-FB6		PC-TB8	PC-ER5F
PC-TF4-MW4-GW4	GROUNDWATE	08/12/93	PC-FB6		PC-TB9	PC-ER5F
PC-TF4-SD001	SEDIMENT	07/29/93	PC-FB1	PC-FB2	PC-TB2	PC-ER1
PC-TF4-SD001A	SEDIMENT	07/29/93	PC-FB1	PC-FB2	PC-TB2	PC-ER1
PC-TF4-SD002A	SEDIMENT	07/29/93	PC-FB1	PC-FB2	PC-TB2	PC-ER1
PC-TF4-SD002B	SEDIMENT	07/29/93	PC-FB1	PC-FB2	PC-TB2	PC-ER1
PC-TF4-SD003	SEDIMENT	07/29/93	PC-FB1	PC-FB2	PC-TB3	PC-ER1
PC-TF4-SD004A	SEDIMENT	07/30/93	PC-FB1	PC-FB2	PC-TB3	PC-ER1
PC-TF4-SD004B	SEDIMENT	07/30/93	PC-FB1	PC-FB2	PC-TB3	PC-ER1
PC-TF4-SD005A	SEDIMENT	07/30/93	PC-FB1	PC-FB2	PC-TB3	PC-ER1
PC-TF4-SD005B	SEDIMENT	07/30/93	PC-FB1	PC-FB2	PC-TB3	PC-ER1
PC-TF4-SD006A	SEDIMENT	07/30/93	PC-FB1	PC-FB2	PC-TB3	PC-ER3
PC-TF4-SD006B	SEDIMENT	07/30/93	PC-FB1	PC-FB2	PC-TB3	PC-ER3
PC-TF4-SD007	SEDIMENT	07/31/93	PC-FB1	PC-FB2	PC-TB4	PC-ER3
PC-TF4-SD008	SEDIMENT	07/31/93	PC-FB1	PC-FB2	PC-TB4	PC-ER3
PC-TF4-SD009A	SEDIMENT	07/31/93	PC-FB1	PC-FB2	PC-TB4	PC-ER3

Table J-13 Field QC Cross Reference
MIANG, Alpena CRTC, Alpena, Michigan

Sample ID	Matrix	Date	Field		Trip	Equipment Rinsate
			Blank	Blank		
PC-TF4-SD009B	SEDIMENT	07/31/93	PC-FB1	PC-FB2	PC-TB4	PC-ER3
PC-TF4-SD010A	SEDIMENT	07/31/93	PC-FB1	PC-FB2	PC-TB4	PC-ER3
PC-TF4-SD010B	SEDIMENT	07/31/93	PC-FB1	PC-FB2	PC-TB4	PC-ER3
PC-TF4-SD011	SEDIMENT	08/01/93	PC-FB1	PC-FB2	PC-TB5	PC-ER3
PC-TF4-SD012	SEDIMENT	08/01/93	PC-FB1	PC-FB2	PC-TB5	PC-ER4
PC-TF4-SD013	SEDIMENT	08/01/93	PC-FB1	PC-FB2	PC-TB5	PC-ER4
PC-TF4-SD014	SEDIMENT	08/01/93	PC-FB1	PC-FB2	PC-TB5	PC-ER4
PC-TF4-SD015	SEDIMENT	08/01/93	PC-FB1	PC-FB2	PC-TB5	PC-ER4
PC-TF4-SD016	SEDIMENT	08/01/93	PC-FB1	PC-FB2	PC-TB5	PC-ER4
PC-TF4-SD017	SEDIMENT	08/01/93	PC-FB1	PC-FB2	PC-TB5	PC-ER4
PC-TF4-SD018	SEDIMENT	08/01/93	PC-FB1	PC-FB2	PC-TB5	PC-ER4
PC-TF4-SW001	SURFACEWAT	07/28/93	PC-FB1F	PC-FB2	PC-TB1	PC-ER2F
PC-TF4-SW002	SURFACEWAT	07/28/93	PC-FB1F	PC-FB2	PC-TB1	PC-ER2F
PC-TF4-SW003	SURFACEWAT	07/28/93	PC-FB1F	PC-FB2	PC-TB1	PC-ER2F
PC-TF4-SW004	SURFACEWAT	07/28/93	PC-FB1F	PC-FB2	PC-TB1	PC-ER2F
PC-TF4-SW005	SURFACEWAT	07/30/93	PC-FB1F	PC-FB2	PC-TB3	PC-ER2F
PC-TF4-SW006	SURFACEWAT	07/30/93	PC-FB1F	PC-FB2	PC-TB3	PC-ER2F
PC-TF4-SW007	SURFACEWAT	07/30/93	PC-FB1F	PC-FB2	PC-TB3	PC-ER2F
PC-TF4-SW008	SURFACEWAT	07/30/93	PC-FB1F	PC-FB2	PC-TB3	PC-ER2F
PC-SF5-MW1-GW4	GROUNDWATE	08/15/93	PC-FB6	PC-FB2	PC-TB12	PC-ER8
PC-SF5-MW2-GW4	GROUNDWATE	08/24/93	PC-FB5	PC-FB2	PC-TB17	PC-ER14
PC-SF5-MW3-GW4	GROUNDWATE	08/24/93	PC-FB6	PC-FB2	PC-TB10	PC-ER7
PC-SF5-MW4-GW4	GROUNDWATE	08/24/93	PC-FB5	PC-FB2	PC-TB17	PC-ER14
PC-SF5-MW5-GW4	GROUNDWATE	08/29/93	PC-FB5	PC-FB2	PC-TB20	PC-ER17
PC-SF5-MW5-GW4-RE	GROUNDWATE	09/12/93	PC-FB7	PC-FB2	PC-TB25	PC-ER17
PC-SF5-MW6-GW4	GROUNDWATE	08/29/93	PC-FB5	PC-FB2	PC-TB20	PC-ER17
PC-SF5-MW6-GW4-RE	GROUNDWATE	09/12/93	PC-FB7	PC-FB2	PC-TB25	PC-ER17
PC-SF5-MW7-GW4	GROUNDWATE	08/29/93	PC-FB5	PC-FB2	PC-TB20	PC-ER17
PC-SF5-MW7-GW4-RE	GROUNDWATE	09/12/93	PC-FB7	PC-FB2	PC-TB25	PC-ER17
PC-SF5-MW8-GW4	GROUNDWATE	09/13/93	PC-FB7	PC-FB2	PC-TB25	PC-ER20

Table J-13 Field QC Cross Reference
MIANG, Alpena CRTC, Alpena, Michigan

Sample ID	Matrix	Date	Field		Trip	Equipment Rinsate
			Blank	Blank		
PC-SF5-MW9-GW4	GROUNDWATE	09/13/93	PC-FB7		PC-TB25	PC-ER20
PC-LF6-MW1-GW4	GROUNDWATE	08/12/93	PC-FB6		PC-TB9	PC-ER5F
PC-LF6-MW10-GW4	GROUNDWATE	09/16/93	PC-FB7		PC-TB28	PC-ER21
PC-LF6-MW2-GW4	GROUNDWATE	08/11/93	PC-FB6		PC-TB8	PC-ER5F
PC-LF6-MW3-GW4	GROUNDWATE	08/26/93	PC-FB5		PC-TB18	PC-ER14
PC-LF6-MW4-GW4	GROUNDWATE	08/30/93	PC-FB5		PC-TB20	PC-ER17
PC-LF6-MW4-GW4-RE	GROUNDWATE	09/12/93	PC-FB7		PC-TB25	PC-ER17
PC-LF6-MW5-GW4	GROUNDWATE	08/30/93	PC-FB5		PC-TB20	PC-ER17
PC-LF6-MW5-GW4-RE	GROUNDWATE	09/12/93	PC-FB7		PC-TB25	PC-ER17
PC-LF6-MW6-GW4	GROUNDWATE	08/30/93	PC-FB5		PC-TB20	PC-ER17
PC-LF6-MW6-GW4-RE	GROUNDWATE	09/12/93	PC-FB7		PC-TB25	PC-ER17
PC-LF6-MW8-GW4	GROUNDWATE	09/08/93	PC-FB7		PC-TB22	PC-ER18
PC-LF6-MW9-GW4	GROUNDWATE	09/08/93	PC-FB7		PC-TB22	PC-ER18
PC-LF6-SD1	SEDIMENT	08/17/93	PC-FB3	PC-FB6	PC-TB14	PC-ER11
PC-LF6-SD2	SEDIMENT	08/17/93	PC-FB3	PC-FB6	PC-TB14	PC-ER11
PC-LF6-SD3	SEDIMENT	08/17/93	PC-FB3	PC-FB6	PC-TB14	PC-ER11
PC-HN8-MW1-GW4	GROUNDWATE	08/15/93	PC-FB6		PC-TB12	PC-ER8
PC-HN8-MW2-GW4	GROUNDWATE	08/29/93	PC-FB5		PC-TB20	PC-ER17
PC-HN8-MW2-GW4-RE	GROUNDWATE	09/12/93	PC-FB7		PC-TB25	PC-ER17
PC-HN8-MW3-GW4	GROUNDWATE	08/29/93	PC-FB5		PC-TB20	PC-ER17
PC-HN8-MW3-GW4-RE	GROUNDWATE	09/12/93	PC-FB7		PC-TB25	PC-ER17
PC-HN8-MW4-GW4	GROUNDWATE	08/29/93	PC-FB5		PC-TB20	PC-ER17
PC-HN8-MW4-GW4-RE	GROUNDWATE	09/12/93	PC-FB7		PC-TB25	PC-ER17
PC-HN8-MW5-GW4	GROUNDWATE	09/14/93	PC-FB7		PC-TB26	PC-ER20
PC-HN8-SB2-SS01-02	SUBSOIL	08/13/93	PC-FB3	PC-FB6	PC-TB10	PC-ER7
PC-HN8-SB2-SS09-10	SUBSOIL	08/13/93	PC-FB3	PC-FB6	PC-TB10	PC-ER7
PC-HN8-SB3-SS01-02	SUBSOIL	08/13/93	PC-FB3	PC-FB6	PC-TB10	PC-ER7
PC-HN8-SB3-SS09-11	SUBSOIL	08/13/93	PC-FB3	PC-FB6	PC-TB10	PC-ER7
PC-HN8-SB4-SS00-02	SOIL	08/13/93	PC-FB3	PC-FB6	PC-TB10	PC-ER7
PC-HN8-SB4-SS12-14	SUBSOIL	08/13/93	PC-FB3	PC-FB6	PC-TB10	PC-ER7

Table J-13 Field QC Cross Reference
MIANG, Alpena CRTC, Alpena, Michigan

Sample ID	Matrix	Date	Field Blank	Field Blank	Trip Blank	Equipment Rinsate
PC-HN8-SB6-SS00-02	SOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-HN8-SB6-SS12-13	SUBSOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-HN8-SB7-SS00-02	SOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-HN8-SB7-SS12-13	SUBSOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-HN8-SB8-SS01-02	SUBSOIL	08/17/93	PC-FB3	PC-FB6	PC-TB13	PC-ER10
PC-HN8-SB8-SS10-12	SUBSOIL	08/17/93	PC-FB3	PC-FB6	PC-TB13	PC-ER10
PC-RT9-MW1-GW4	GROUNDWATE	08/27/93	PC-FB5	PC-FB6	PC-TB19	PC-ER17
PC-RT9-MW2-GW4	GROUNDWATE	08/27/93	PC-FB5	PC-FB6	PC-TB19	PC-ER14
PC-RT9-MW3-GW4	GROUNDWATE	08/27/93	PC-FB5	PC-FB6	PC-TB19	PC-ER14
PC-RT9-MW4-GW4	GROUNDWATE	09/08/93	PC-FB7	PC-FB6	PC-TB22	PC-ER18
PC-RT9-MW5-GW4	GROUNDWATE	09/15/93	PC-FB7	PC-FB6	PC-TB27	PC-ER20
PC-RT9-MW6-GW4	GROUNDWATE	09/15/93	PC-FB7	PC-FB6	PC-TB27	PC-ER20
PC-BG1-SB1-SS00-01	SOIL	08/09/93	PC-FB3	PC-FB6	PC-TB6	PC-ER7
PC-BG1-SB1-SS02-03	SUBSOIL	08/09/93	PC-FB3	PC-FB6	PC-TB6	PC-ER7
PC-BG1-SB1-SS09-10	SUBSOIL	08/09/93	PC-FB3	PC-FB6	PC-TB6	PC-ER7
PC-BG1-SB2-SS00-01	SOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-BG1-SB2-SS02-03	SUBSOIL	08/15/93	PC-FB3	PC-FB6	PC-TB12	PC-ER9
PC-PW-PW1-GW4	GROUNDWATE	08/10/93	PC-FB1F	PC-FB6	PC-TB7	PC-ER5F
PC-PW-PW2-GW4	GROUNDWATE	08/10/93	PC-FB1F	PC-FB6	PC-TB7	PC-ER5F
PC-PW-PW3-GW4	GROUNDWATE	08/10/93	PC-FB1F	PC-FB6	PC-TB7	PC-ER5F

Table J - 14 Analytes Detected in Trip Blanks
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TB01	566832	1,3-Dimethylbenzene	0.18	0.00		ug/l	07/28/93	COMPUCHEM
PC-TB01	566832	1,4-Dimethylbenzene	0.18	0.00		ug/l	07/28/93	COMPUCHEM
PC-TB01	566832	Styrene	0.10	0.00		ug/l	07/28/93	COMPUCHEM
PC-TB02	566977	Methylene chloride	0.26	0.00		ug/l	07/27/93	COMPUCHEM
PC-TB03	567263	Ethylbenzene	0.09	0.00		ug/l	07/29/93	COMPUCHEM
PC-TB04	567575	Methylene chloride	0.35	0.00		ug/l	07/31/93	COMPUCHEM
PC-TB05	567712	Methylene chloride	0.39	0.00		ug/l	08/01/93	COMPUCHEM
PC-TB06	569290	Methylene chloride	0.58	0.00		ug/l	08/09/93	COMPUCHEM
PC-TB06	569290	1,3-Dimethylbenzene	0.06	0.00		ug/l	08/09/93	COMPUCHEM
PC-TB06	569290	1,4-Dichlorobenzene	0.06	0.00		ug/l	08/09/93	COMPUCHEM
PC-TB06	569290	1,4-Dimethylbenzene	0.06	0.00		ug/l	08/09/93	COMPUCHEM
PC-TB06	569290	Benzene	0.06	0.00		ug/l	08/09/93	COMPUCHEM
PC-TB07	569861	Methylene chloride	0.41	0.00		ug/l	08/10/93	COMPUCHEM
PC-TB07	569861	1,4-Dichlorobenzene	0.44	0.00		ug/l	08/10/93	COMPUCHEM
PC-TB08	570212	1,3-Dimethylbenzene	0.05	0.00		ug/l	08/11/93	COMPUCHEM
PC-TB08	570212	1,4-Dimethylbenzene	0.05	0.00		ug/l	08/11/93	COMPUCHEM
PC-TB09	570416	Chloroform	0.15	0.00	J	ug/l	08/12/93	COMPUCHEM
PC-TB09	570416	1,3-Dichlorobenzene	0.08	0.00		ug/l	08/12/93	COMPUCHEM
PC-TB10	570777	1,3-cis-Dichloropropylene	0.20	0.00		ug/l	08/13/93	COMPUCHEM
PC-TB10	570777	Chloroform	0.08	0.00		ug/l	08/13/93	COMPUCHEM
PC-TB10	570777	Tetrachloroethylene	0.06	0.00		ug/l	08/13/93	COMPUCHEM
PC-TB10	570777	1,3-Dichlorobenzene	0.08	0.00		ug/l	08/13/93	COMPUCHEM
PC-TB10	570777	1,3-Dimethylbenzene	0.05	0.00		ug/l	08/13/93	COMPUCHEM
PC-TB10	570777	1,4-Dimethylbenzene	0.05	0.00		ug/l	08/13/93	COMPUCHEM
PC-TB10	570777	Ethylbenzene	0.08	0.00		ug/l	08/13/93	COMPUCHEM
PC-TB12	571267	Methylene chloride	0.09	0.00	L	ug/l	08/15/93	COMPUCHEM
PC-TB12	571267	Toluene	0.12	0.00		ug/l	08/15/93	COMPUCHEM
PC-TB13	571711	Chloroform	0.10	0.00	J	ug/l	08/17/93	COMPUCHEM
PC-TB13	571711	Benzene	0.06	0.00		ug/l	08/17/93	COMPUCHEM
PC-TB13	571711	Chlorobenzene	0.09	0.00	J	ug/l	08/17/93	COMPUCHEM

Table J - 14 Analytes Detected in Trip Blanks
MIANG, Alpena CRT, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-TB14	571950	1,1,1-Trichloroethane	0.15	0.00	J	ug/l	08/17/93	COMPUCHEM
PC-TB14	571950	Chloroform	0.22	0.00	J	ug/l	08/17/93	COMPUCHEM
PC-TB15	572976	Methylene chloride	0.35	0.00		ug/l	08/23/93	COMPUCHEM
PC-TB15	572975	Methylene chloride	0.48	0.00		ug/l	08/23/93	COMPUCHEM
PC-TB15	572976	1,2-Dimethylbenzene	0.10	0.00	J	ug/l	08/23/93	COMPUCHEM
PC-TB15	572976	Ethylbenzene	0.07	0.00		ug/l	08/23/93	COMPUCHEM
PC-TB15	572976	Styrene	0.08	0.00	J	ug/l	08/23/93	COMPUCHEM
PC-TB16	573652	Methylene chloride	0.34	0.00		ug/l	08/24/93	COMPUCHEM
PC-TB20	575033	Methylene chloride	0.27	0.00	J	ug/l	08/29/93	COMPUCHEM
PC-TB22	576297	1,3-Dimethylbenzene	0.05	0.00		ug/l	09/08/93	COMPUCHEM
PC-TB22	576297	1,4-Dimethylbenzene	0.05	0.00		ug/l	09/08/93	COMPUCHEM
PC-TB22	576297	Toluene	0.19	0.00		ug/l	09/08/93	COMPUCHEM
PC-TB23	576533	Methylene chloride	0.60	0.00		ug/l	09/09/93	COMPUCHEM
PC-TB23	576533	1,3-Dimethylbenzene	0.06	0.00		ug/l	09/09/93	COMPUCHEM
PC-TB23	576533	1,4-Dimethylbenzene	0.06	0.00		ug/l	09/09/93	COMPUCHEM
PC-TB23	576533	Toluene	0.14	0.00		ug/l	09/09/93	COMPUCHEM
PC-TB24	576709	1,3-Dimethylbenzene	0.06	0.00		ug/l	09/10/93	COMPUCHEM
PC-TB24	576709	1,4-Dimethylbenzene	0.06	0.00		ug/l	09/10/93	COMPUCHEM
PC-TB25	576951	1,3-Dimethylbenzene	0.06	0.00		ug/l	09/13/93	COMPUCHEM
PC-TB25	576951	1,4-Dimethylbenzene	0.06	0.00		ug/l	09/13/93	COMPUCHEM
PC-TB26	577551	Benzene	0.21	0.00		ug/l	09/14/93	COMPUCHEM
PC-TB27	577703	Ethylbenzene	0.10	0.00		ug/l	09/15/93	COMPUCHEM
PC-TB27	577703	Toluene	0.16	0.00		ug/l	09/15/93	COMPUCHEM

J.2.2 Field Blanks

Seven FB were collected to provide baseline analytical data for the water used for equipment decontamination. Field blanks were taken for the ASTM Type II water produced onsite using a Barnstead® E-Pure system, and the potable water used in the steam cleaner and as decontamination water. Field blanks were collected by randomly selecting sample containers from the supply, filling them with water from the sample source, and then preserving as appropriate for the required analysis. The blanks were analyzed in the same manner as the associated environmental samples. Low levels of chloroform, brominated compounds, methylene chloride, lead, arsenic, copper, nickel, and zinc were detected in selected field blanks prepared during the RI. Table J-15 summarizes the concentrations of elements detected in the field blanks collected at Alpena CRTC. The Alpena CRTC RI was conducted in four sampling events separate field blanks were obtained for each sampling event. The low levels of compounds and elements detected in the field blanks are not considered to have contributed to any levels seen in the associated environmental samples.

J.2.3 Equipment Rinseate

Twenty equipment blanks were prepared from rinseates of equipment used to obtain environmental samples. The equipment blanks were prepared by pouring ASTM Type II water produced on site, through or over sampling equipment which had been decontaminated. The equipment blanks were preserved as appropriate for the required analysis and analyzed using the same methods as the associated environmental samples. VOCs such as methylene chloride, chloroform, ethyl benzene, and toluene were detected at concentrations below the CRDL in the equipment rinseates. SVOCs such as bis(2-ethylhexyl)phthalate, diethyl phthalate and phenol were detected in equipment rinseates at concentrations below the CRQL. Table J-16 summarizes the concentrations of elements detected in the equipment blanks collected at Alpena CRTC.

J.2.4 Field Replicates

One replicate environmental sample was collected for every 10 environmental samples, as required by DOE/HWP-65. Sample collection reproducibility and media variability were measured in the laboratory by the analysis of field replicates. Field RPD values were calculated only for compounds and elements detected above the CRDLs in one replicate pair samples and only for those compounds and elements not considered to be common laboratory contaminants (e.g., methylene chloride). The RPD value of the detected compound or parameter was reviewed to assess the sample collection reproducibility and matrix variability. A total of 72 soil samples, 75 water samples, 37 sediment, 9 soil replicate samples, 5 replicate sediment, and 7 duplicate water samples were collected.

Field RPD values were calculated only for compounds and elements detected above the CRDLs in one of the replicate pair samples and only for those compounds and elements not considered to be common laboratory contaminants (e.g., methylene chloride). Increased percent differences were expected for all analytes detected in soil samples, since all samples remained in stainless

Table J - 15 Analytes Detected in Field Blanks
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RD L	Qual	Units	Date	Laboratory
PC-FB01	566786	2-Propanone	11.00	0.00		ug/l	07/28/93	COMPUCHEM
PC-FB01	566786	Di-n-butyl phthalate	1.00	0.00		ug/l	07/28/93	COMPUCHEM
PC-FB01	566786	bis(2-Ethylhexyl)phthalate	17.00	0.00		ug/l	07/28/93	COMPUCHEM
PC-FB01	525534-FB1	Lead	3.10	0.00		ug/l	11/12/92	COMPUCHEM
PC-FB02	566978	Bromodichloromethane	2.90	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	566978	Bromoform	2.50	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	566978	Chloroform	0.92	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	566978	Dibromochloromethane	4.10	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	566988	Copper	120.00	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	566988	Lead	8.40	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	566988	Zinc	859.00	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	566979	Di-n-butyl phthalate	0.50	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	566979	bis(2-Ethylhexyl)phthalate	3.00	0.00		ug/l	07/29/93	COMPUCHEM
PC-FB02	525534-FB2	Arsenic	4.30	0.00	0	ug/l	11/12/92	COMPUCHEM
PC-FB02	525534-FB2	Lead	5.50	0.00		ug/l	11/12/92	COMPUCHEM
PC-FB03	569858	Bromodichloromethane	1.50	0.00		ug/l	08/10/93	COMPUCHEM
PC-FB03	569858	Bromoform	2.00	0.00		ug/l	08/10/93	COMPUCHEM
PC-FB03	569858	Chloroform	0.36	0.00		ug/l	08/10/93	COMPUCHEM
PC-FB03	569858	Dibromochloromethane	3.30	0.00		ug/l	08/10/93	COMPUCHEM
PC-FB03	569858	Methylene chloride	0.29	0.00		ug/l	08/10/93	COMPUCHEM
PC-FB03	569864	Arsenic	12.10	0.00	J	ug/l	08/10/93	COMPUCHEM
PC-FB03	569864	Zinc	13.30	0.00		ug/l	08/10/93	COMPUCHEM
PC-FB03	569880	Total Petroleum Hydrocarbons	1.60	0.25		mg/l	08/10/93	COMPUCHEM
PC-FB04	572980	Bromodichloromethane	2.10	0.00	J	ug/l	08/23/93	COMPUCHEM
PC-FB04	572980	Bromoform	4.20	0.00	J	ug/l	08/23/93	COMPUCHEM
PC-FB04	572980	Chloroform	0.46	0.00	J	ug/l	08/23/93	COMPUCHEM
PC-FB04	572980	Dibromochloromethane	11.00	0.00	J	ug/l	08/23/93	COMPUCHEM
PC-FB04	572980	Methylene chloride	0.30	0.00	J	ug/l	08/23/93	COMPUCHEM
PC-FB04	572980	Ethylbenzene	0.10	0.00		ug/l	08/23/93	COMPUCHEM
PC-FB04	572985	Zinc	5.30	0.00	0	ug/l	08/23/93	COMPUCHEM

Table J - 15 Analytes Detected in Field Blanks
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-FB04	572981	Total Petroleum Hydrocarbons	1.10	0.25		mg/l	08/23/93	COMPUCHEM
PC-FB05	572986	Methylene chloride	0.47	0.00		ug/l	08/23/93	COMPUCHEM
PC-FB05	572988	Zinc	43.60	0.00		ug/l	08/23/93	COMPUCHEM
PC-FB05	572987	Total Petroleum Hydrocarbons	0.70	0.25		mg/l	08/23/93	COMPUCHEM
PC-FB06	570192	Chloroform	0.09	0.00		ug/l	08/11/93	COMPUCHEM
PC-FB06	570192	1,2-Dichlorobenzene	0.40	0.00	J	ug/l	08/11/93	COMPUCHEM
PC-FB06	570202	Zinc	5.30	0.00		ug/l	08/11/93	COMPUCHEM
PC-FB07	576295	Toluene	0.12	0.00		ug/l	09/07/93	COMPUCHEM
PC-FB07	576664	Total Petroleum Hydrocarbons	3.10	0.25		mg/l	09/10/93	COMPUCHEM

Table J - 16 Analytes Detected in Equipment Rinsates
MIANG, Alpena CRT, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-ER01	567292	Zinc	4.30	0.00	Q	ug/l	07/29/93	COMPUCHEM
PC-ER01	567259	bis(2-Ethylhexyl)phthalate	15.00	0.00	J	ug/l	07/29/93	COMPUCHEM
PC-ER03	567576	Methylene chloride	0.16	0.00		ug/l	07/31/93	COMPUCHEM
PC-ER03	567577	Di-n-butyl phthalate	0.80	0.00		ug/l	07/31/93	COMPUCHEM
PC-ER03	567577	Diethyl phthalate	2.00	0.00		ug/l	07/31/93	COMPUCHEM
PC-ER03	567577	Phenol	4.00	0.00		ug/l	07/31/93	COMPUCHEM
PC-ER03	567577	bis(2-Ethylhexyl)phthalate	20.00	0.00		ug/l	07/31/93	COMPUCHEM
PC-ER04	567708	Methylene chloride	0.78	0.00		ug/l	08/01/93	COMPUCHEM
PC-ER04	567709	Phenol	0.90	0.00		ug/l	08/01/93	COMPUCHEM
PC-ER05	570413	Chloroform	0.21	0.00		ug/l	08/12/93	COMPUCHEM
PC-ER05	570413	Methylene chloride	0.09	0.00		ug/l	08/12/93	COMPUCHEM
PC-ER05	570421	bis(2-Ethylhexyl)phthalate	21.00	0.00		ug/l	08/12/93	COMPUCHEM
PC-ER05	570451	Total Petroleum Hydrocarbons	2.00	0.25		mg/l	08/12/93	COMPUCHEM
PC-ER07	571295	Zinc	51.90	0.00		ug/l	08/15/93	COMPUCHEM
PC-ER07	571274	Diethyl phthalate	4.00	0.00	J	ug/l	08/15/93	COMPUCHEM
PC-ER07	571274	Dimethyl phthalate	0.90	0.00	J	ug/l	08/15/93	COMPUCHEM
PC-ER07	571296	Total Petroleum Hydrocarbons	0.40	0.25		mg/l	08/15/93	COMPUCHEM
PC-ER08	571258	Methylene chloride	0.03	0.00		ug/l	08/15/93	COMPUCHEM
PC-ER08	571258	Toluene	0.28	0.00	L	ug/l	08/15/93	COMPUCHEM
PC-ER08	571310	Lead, Dissolved	8.50	0.00		ug/l	08/15/93	COMPUCHEM
PC-ER08	571269	Benzo(a)anthracene	0.90	0.00		ug/l	08/15/93	COMPUCHEM
PC-ER08	571269	Chrysene	1.00	0.00		ug/l	08/15/93	COMPUCHEM
PC-ER08	571269	Diethyl phthalate	0.90	0.00	J	ug/l	08/15/93	COMPUCHEM
PC-ER08	571269	Pentachlorophenol	0.60	0.00	J	ug/l	08/15/93	COMPUCHEM
PC-ER08	571283	Total Petroleum Hydrocarbons	2.00	0.25		mg/l	08/15/93	COMPUCHEM
PC-ER09	571261	1,3-Dimethylbenzene	0.04	0.00		ug/l	08/15/93	COMPUCHEM
PC-ER09	571261	1,4-Dimethylbenzene	0.04	0.00		ug/l	08/15/93	COMPUCHEM
PC-ER09	571288	Zinc	226.00	0.00		ug/l	08/15/93	COMPUCHEM
PC-ER09	571272	Diethyl phthalate	7.00	0.00	J	ug/l	08/15/93	COMPUCHEM
PC-ER09	571272	Dimethyl phthalate	1.00	0.00	J	ug/l	08/15/93	COMPUCHEM

Table J - 16 Analytes Detected in Equipment Rinsates
MIANG, Alpena CRTC, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-ER09	571292	Total Petroleum Hydrocarbons	2.00	0.25		mg/l	08/15/93	COMPUCHEM
PC-ER10	571672	Chlorobenzene	0.09	0.00	J	ug/l	08/17/93	COMPUCHEM
PC-ER10	571674	Zinc	4.60	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER10	571673	Di-n-butyl phthalate	1.00	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER10	571673	Diethyl phthalate	1.00	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER10	571673	Phenanthrene	0.10	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER10	571673	Phenol	2.00	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER10	571673	bis(2-Ethylhexyl)phthalate	7.00	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER11	571952	Chloroform	0.21	0.00	J	ug/l	08/17/93	COMPUCHEM
PC-ER11	571952	Ethylbenzene	0.09	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER11	571957	Zinc	73.30	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER11	571955	Phenol	1.00	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER11	571955	bis(2-Ethylhexyl)phthalate	4.00	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER11	571962	Total Petroleum Hydrocarbons	2.50	0.25		mg/l	08/17/93	COMPUCHEM
PC-ER12	571956	Zinc	4.30	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER12	571953	bis(2-Ethylhexyl)phthalate	2.00	0.00		ug/l	08/17/93	COMPUCHEM
PC-ER12	571958	Total Petroleum Hydrocarbons	0.30	0.25		mg/l	08/17/93	COMPUCHEM
PC-ER13	573664	Methylene chloride	0.21	0.00		ug/l	08/24/93	COMPUCHEM
PC-ER13	573664	Ethylbenzene	0.11	0.00		ug/l	08/24/93	COMPUCHEM
PC-ER13	573667	Zinc	6.50	0.00		ug/l	08/24/93	COMPUCHEM
PC-ER13	573666	Total Petroleum Hydrocarbons	1.10	0.25	(J)	mg/l	08/24/93	COMPUCHEM
PC-ER14	574399	Zinc, Dissolved	16.80	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER14	574418	bis(2-Ethylhexyl)phthalate	35.00	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER15	574349	Benzene	0.07	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER16	574366	Chloroform	0.12	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER16	574366	Methyl chloride	0.12	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER16	574366	Tetrachloroethylene	0.09	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER16	574366	Trichloroethylene	0.08	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER16	574366	Toluene	0.22	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER16	574423	4-Chloroaniline	0.60	0.00		ug/l	08/26/93	COMPUCHEM

Table J - 16 Analytes Detected in Equipment Rinsates
MIANG, Alpena CRT, Alpena, Michigan

Sampleid	Lab No	Analyte	Result	RDL	Qual	Units	Date	Laboratory
PC-ER16	574423	Phenol	1.00	0.00		ug/l	08/26/93	COMPUCHEM
PC-ER16	574426	Total Petroleum Hydrocarbons	0.50	0.25		mg/l	08/26/93	COMPUCHEM
PC-ER17	574973	Toluene	0.21	0.00		ug/l	08/29/93	COMPUCHEM
PC-ER17	574983	Zinc, Dissolved	5.30	0.00	(J)	ug/l	08/29/93	COMPUCHEM
PC-ER17	574975	Total Petroleum Hydrocarbons	0.70	0.25		mg/l	08/29/93	COMPUCHEM
PC-ER19	576962	1,3-Dimethylbenzene	0.04	0.00		ug/l	09/13/93	COMPUCHEM
PC-ER19	576962	1,4-Dimethylbenzene	0.04	0.00		ug/l	09/13/93	COMPUCHEM
PC-ER19	577022	Zinc	8.30	0.00	(J)	ug/l	09/13/93	COMPUCHEM
PC-ER19	576971	Di-n-butyl phthalate	0.80	0.00		ug/l	09/13/93	COMPUCHEM
PC-ER19	576971	Phenol	0.70	0.00		ug/l	09/13/93	COMPUCHEM
PC-ER20	577481	1,3-Dimethylbenzene	0.06	0.00		ug/l	09/14/93	COMPUCHEM
PC-ER20	577481	1,4-Dimethylbenzene	0.06	0.00		ug/l	09/14/93	COMPUCHEM
PC-ER20	577484	Zinc	8.90	0.00	(J)	ug/l	09/14/93	COMPUCHEM
PC-ER20	577482	Diethyl phthalate	0.90	0.00		ug/l	09/14/93	COMPUCHEM
PC-ER20	577482	Phenol	2.00	0.00		ug/l	09/14/93	COMPUCHEM
PC-ER21	578088	Zinc	5.40	0.00	(J)	ug/l	09/15/93	COMPUCHEM
PC-ER21	578094	Zinc, Dissolved	4.00	0.00		ug/l	09/15/93	COMPUCHEM
PC-ER21	578091	Total Petroleum Hydrocarbons	0.80	0.25		mg/l	09/15/93	COMPUCHEM

sleeves (i.e., not mixed) after the sampling equipment was retrieved from the borehole. The field replicate for each soil analyses was obtained from the adjacent sleeve and water samples were split into different sample containers upon sampling.

No relative percent difference values were calculated for VOC water duplicate since no VOCs were detected in either of the replicate samples. Two relative percent difference values for soils were calculated for VOCs. Both values for 2-butanone and 1,4-dichlorobenzene exceeded control limits of 20%. SVOCs were not detected above the CRDL in the replicate soil and water samples collected for SVOCs. Therefore, RPD values were not calculated for SVOCs. Four replicate soil pairs were used to evaluate priority pollutant metals concentrations and to evaluate sample collection reproducibility and matrix variability at the Alpena CRTC. Eighteen of the 36 calculated soil RPD values were greater than 20 percent. The percent difference ranged between 21% and 100%. These results are considered to have little impact on the environmental data quality and considered more likely to be the result of the variability of the soil matrix. Table J-17 summarizes the concentrations of elements detected in the replicate environmental samples collected at the Alpena CRTC.

J.3 LABORATORY QUALITY CONTROL ASSESSMENT

All environmental samples collected at Phelps Collins ANG Base were analyzed using the 3/90 EPA CLP SOW for GC/MS analyses and EPA solid waste test methods and general chemical methodology from the following references:

- *Statement of Work For Organic Analysis, Multi-Media, Multi-Concentration*, EPA Contract Laboratory Program, 3/90 (SVOCs)
- *Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods*, SW-846, Third Edition, September 1986, with 1989 revisions (VOCs, priority pollutant metals)
- *Methods for Chemical Analyses of Water and Wastes*, EPA 600/4-79-020, EPA 1983, with revisions (TPH)
- *Requirements for Quality Control of Analytical Data*, HAZWRAP, DOE/HWP-65/R1 6/90 (VOCs, SVOCs, priority pollutant metals, and TPH)

HAZWRAP Level C documentation was required and submitted by the laboratory for all analyses. All data were validated and qualified using the guidelines and specifications described in the following documents:

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR: SAMPLE ID: DUPLICATE OF: COLLECTION DATE:	SB4		SB4		SB10		SB10		SB3		SB3	
	PC-P1-SB4-SS00-01	PC-P1-SB4-SS00-01	PC-P1-SB4-SS00-02	PC-P1-SB4-SS00-01	PC-MP2-SB10-SS03-04	PC-MP2-SB10-SS03-04	PC-MP2-SB10-SS08-10	PC-MP2-SB3-SS04-05	PC-MP2-SB3-SS04-05	PC-MP2-SB3-SS05-07	PC-MP2-SB3-SS04-05	
	08/24/93		08/24/93		09/13/93		09/13/93		08/17/93		08/17/93	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:												
8010												
Methylene chloride	1.80	B	5.30	J	5.20	B	4.10	B	1.40	B	1.40	B
ug/kg												
8020												
1,2-Dichlorobenzene	1.50	U	1.60	U	0.12	U	1.40	U	1.40	U	1.40	U
ug/kg												
1,2-Dimethylbenzene	1.30	U	0.16	B	1.20	U	0.14	B	1.20	U	1.20	U
ug/kg												
1,4-Dichlorobenzene	2	U	2.10	U	1.80	U	0.11	B	1.90	U	1.90	U
ug/kg												
Benzene	1.50	U	1.60	U	1.40	U	1.40	U	1.40	U	1.40	U
ug/kg												
Chlorobenzene	2	U	2.10	U	1.80	U	1.90	U	1.90	U	1.90	U
ug/kg												
Ethylbenzene	2	U	2.10	U	1.80	U	1.90	U	1.90	U	1.90	U
ug/kg												
Toluene	5.80	U	0.17	B	0.15	B	0.17	B	5.50	U	0.17	
ug/kg												
CLP 3/90												
Anthracene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Benzo(a)anthracene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Benzo(a)pyrene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Benzo(b)fluoranthene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Benzo(ghi)perylene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Benzo(k)fluoranthene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Carbazole	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Chrysene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Fluoranthene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Fluorene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Indeno(1,2,3-c,d)pyrene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Phenanthrene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
Pyrene	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
bis(2-Ethylhexyl)phthalate	360	U	380	U	340	U	340	U	340	U	340	U
ug/kg												
METALS												
Aluminum	-		-		-		-		-		-	
mg/kg												
Arsenic	0.43	U	0.73	OB	0.75	(L)	0.41	U	0.60	OB	0.49	OB
mg/kg												
Barium	-		-		-		-		-		-	
mg/kg												
Calcium	-		-		-		-		-		-	
mg/kg												
Chromium	1.20		4.40	L	2.50	J	2.80		3.30	L	2.70	L
mg/kg												
Cobalt	-		-		-		-		-		-	
mg/kg												
Copper	1.60	U	1.80	U	1.80	0	1.90	0	1.80	0	1.50	U
mg/kg												

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR: SAMPLE ID: DUPLICATE OF: COLLECTION DATE:	SB4		SB4		SB10		SB10		SB3		SB3	
	PC-P1-SB4-SS00-01		PC-P1-SB20-SS00-02		PC-MP2-SB10-SS03-04		PC-MP2-SB10-SS08-10		PC-MP2-SB3-SS04-05		PC-MP2-SB3-SS05-07	
	08/24/93		08/24/93		09/13/93		09/13/93		08/17/93		08/17/93	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
	UNITS:											
Iron	-		-		-		-		-		-	
Lead	0.90		3	K	1.10	L	2.90	L	1.40	J	0.82	K
Magnesium	-		-		-		-		-		-	
Manganese	-		-		-		-		-		-	
Nickel	3.80	U	4.20	(L)	3.60	U	3.60	U	5.30	L	3.60	UL
Potassium	-		-		-		-		-		-	
Selenium	0.33	U	0.35	UL	0.31	U	0.31	U	0.31	U	0.31	U
Sodium	-		-		-		-		-		-	
Vanadium	-		-		-		-		-		-	
Zinc	2	OB	4.30	B	15.30		12.70		5.50	B	2.90	B
TPH	9.60		10.40		40.60		67		42.60		12	
Total Petroleum Hydrocarbons												

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR:		SB6		SB6		SB9		SB9		SB11		SB20	
SAMPLE ID:		PC-MP2-SB6-SS00-02		PC-BG1-SB2-SS02-03		PC-MP2-SB9-SS03-04		PC-MP2-SB9-SS04-06		PC-CG3-SB11-SS00-02		PC-CG3-SB20-SS00-02	
DUPLICATE OF:		PC-MP2-SB6-SS00-02		PC-MP2-SB6-SS00-02		PC-MP2-SB9-SS03-04		PC-MP2-SB9-SS03-04		PC-CG3-SB11-SS00-02		PC-CG3-SB11-SS00-02	
COLLECTION DATE:		08/15/93		08/15/93		08/16/93		08/16/93		08/26/93		08/26/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg	17		9.10	J	5.70	B	2	B	4.20	J	9.30	B
Methylene chloride	ug/kg												
8020	ug/kg	1.50	U	0.79		1.50	UJ	2.50		1.50	U	4.30	U
1,2-Dichlorobenzene	ug/kg	1.30	U	0.14		1.30	UJ	1.20	U	1.30	U	1.30	U
1,2-Dimethylbenzene	ug/kg	0.26	B	0.11	B	1.90	UJ	1.90	U	0.15	J	1.90	U
1,4-Dichlorobenzene	ug/kg	1.50	U	0.04		1.50	UJ	1.40	U	1.50	U	1.50	U
Benzene	ug/kg	2	U	2.10	U	1.90	UJ	1.90	U	1.90	U	1.90	U
Chlorobenzene	ug/kg	2	U	2.10	U	1.90	UJ	1.90	U	1.90	U	1.90	U
Ethylbenzene	ug/kg	0.28	B	5.60		5.50	UJ	5.50	U	0.12	B	5.60	U
Toluene	ug/kg												
CLP 3/90	ug/kg	360	U	380	U	340	U	340	U	340	U	76	
Anthracene	ug/kg	360	U	380	U	340	U	340	U	340	U	290	
Benzo(a)anthracene	ug/kg	360	UJ	380	U	340	U	340	U	340	U	170	
Benzo(a)pyrene	ug/kg	52	J	380	U	340	U	340	U	340	U	430	
Benzo(b)fluoranthene	ug/kg	360	UJ	380	U	340	U	340	U	340	U	140	
Benzo(ghi)perylene	ug/kg	52	J	380	U	340	U	340	U	340	U	430	
Benzo(k)fluoranthene	ug/kg	360	U	380	U	340	U	340	U	340	U	60	
Carbazole	ug/kg	360	U	380	U	340	U	340	U	340	U	250	
Chrysene	ug/kg	51	U	380	U	340	U	340	U	340	U	640	
Fluoranthene	ug/kg	360	U	380	U	340	U	340	U	340	U	39	
Fluorene	ug/kg	360	UJ	380	U	340	U	340	U	340	U	160	
Indeno(1,2,3-c,d)pyrene	ug/kg	360	U	380	U	340	U	340	U	340	U	440	
Phenanthrene	ug/kg	360	U	380	U	340	U	340	U	340	U	420	
Pyrene	ug/kg	40	U	380	U	340	U	340	U	340	U	350	U
bis(2-Ethylhexyl)phthalate	ug/kg	360	U	380	U	340	U	340	U	340	U		
METALS	mg/kg												
Aluminum	mg/kg	1.90	B	1.70	B	0.62	OB	0.57	OB	0.42	U	1.50	
Arsenic	mg/kg	-		-		-		-		-		-	
Barium	mg/kg	-		-		-		-		-		-	
Calcium	mg/kg	5		4.50		2.70		3.10		2.90		7	
Chromium	mg/kg	-		-		-		-		-		-	
Cobalt	mg/kg	-		2.60		2.10	0	1.60	U	1.60	U	6.60	
Copper	mg/kg	5.10											

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR:		SB6		SB6		SB9		SB9		SB11		SB20	
SAMPLE ID:		PC-MP2-SB6-SS00-02		PC-BG1-SB2-SS02-03		PC-MP2-SB9-SS03-04		PC-MP2-SB9-SS04-06		PC-CG3-SB11-SS00-02		PC-CG3-SB20-SS00-02	
DUPLICATE OF:		PC-MP2-SB6-SS00-02		PC-MP2-SB6-SS00-02		PC-MP2-SB6-SS00-02		PC-MP2-SB9-SS03-04		PC-CG3-SB11-SS00-02		PC-CG3-SB11-SS00-02	
COLLECTION DATE:		08/15/93		08/15/93		08/16/93		08/16/93		08/26/93		08/26/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Iron	mg/kg	-		-		-		-		-		-	
Lead	mg/kg	31	J	1.40	B	0.84	B	1	B	3.80		13.50	
Magnesium	mg/kg	-		-		-		-		-		-	
Manganese	mg/kg	-		-		-		-		-		-	
Nickel	mg/kg	3.80	U	4.10	U	3.60	U	3.70	U	3.70	U	3.70	
Potassium	mg/kg	-		-		-		-		-		-	
Selenium	mg/kg	0.32	UL	0.63	L	0.33	(L)	0.32	U	0.32	UL	0.32	U
Sodium	mg/kg	-		-		-		-		-		-	
Vanadium	mg/kg	-		-		-		-		-		-	
Zinc	mg/kg	20.30	B	9.60	B	5.40	B	4.60	B	9	B	33.10	B
TPH		2120		14.10		18.20		49.40		18		382	
Total Petroleum Hydrocarbons	mg/kg												

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR:		SB13		SB13		SB2		SB2	
SAMPLE ID:		PC-CG3-SB13-SS00-02		PC-CG3-SB13-SS02-04		PC-HN8-SB2-SS01-02		PC-HN8-SB2-SS02-03	
DUPLICATE OF:		PC-CG3-SB13-SS00-02		PC-CG3-SB13-SS00-02		PC-HN8-SB2-SS01-02		PC-HN8-SB2-SS01-02	
COLLECTION DATE:		08/26/93		08/26/93		08/13/93		08/13/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg	3.10	B	3.10	B	1.40	B	1	B
Methylene chloride	ug/kg	0.07		2.20	U	1.50	U	0.07	U
8020	ug/kg	0.18		1.30	U	0.04	B	0.03	B
1,2-Dichlorobenzene	ug/kg	0.25	B	1.90	U	1.90	U	0.17	U
1,2-Dimethylbenzene	ug/kg	0.02	B	1.50	U	1.40	U	1.50	U
1,4-Dichlorobenzene	ug/kg	1.90	U	1.90	U	0.14	U	1.90	U
Benzene	ug/kg	1.90	U	1.90	U	0.05	J	1.90	U
Chlorobenzene	ug/kg	0.18		5.60	U	0.21	B	0.21	B
Ethylbenzene	ug/kg								
Toluene	ug/kg								
CLP 3/90	ug/kg								
Anthracene	ug/kg	340	U	340	U	340	U	340	U
Benzo(a)anthracene	ug/kg	340	U	340	U	340	U	340	U
Benzo(a)pyrene	ug/kg	340	U	340	U	340	U	340	U
Benzo(b)fluoranthene	ug/kg	340	U	340	U	340	U	340	U
Benzo(ghi)perylene	ug/kg	340	U	340	U	340	U	340	U
Benzo(k)fluoranthene	ug/kg	340	U	340	U	340	U	340	U
Carbazole	ug/kg	340	U	340	U	340	U	340	U
Chrysene	ug/kg	340	U	340	U	340	U	340	U
Fluoranthene	ug/kg	340	U	340	U	340	U	340	U
Fluorene	ug/kg	340	U	340	U	340	U	340	U
Indeno(1,2,3-c,d)pyrene	ug/kg	340	U	340	U	340	U	340	U
Phenanthrene	ug/kg	340	U	340	U	340	U	340	U
Pyrene	ug/kg	340	U	340	U	340	U	340	U
Bis(2-Ethylhexyl)phthalate	ug/kg	340	U	37	U	340	U	340	U
METALS	mg/kg								
Aluminum	mg/kg	0.60	0	0.68	0	4120	(I)	2650	0
Arsenic	mg/kg	-		-		0.88		0.44	0
Barium	mg/kg	-		-		17	0	7.60	0
Calcium	mg/kg	-		-		1380		584	
Chromium	mg/kg	5		4.90		6.50		4.20	
Cobalt	mg/kg	-		-		1.40	(I)	1.40	0
Copper	mg/kg	1.90	0	1.90	0	1.60	U	1.60	U

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR:		SB13		SB13		SB2		SB2	
SAMPLE ID:		PC-CG3-SB13-SS00-02		PC-CG3-SB13-SS02-04		PC-HN8-SB2-SS01-02		PC-HN8-SB2-SS02-03	
DUPLICATE OF:		PC-CG3-SB13-SS00-02		PC-CG3-SB13-SS00-02		PC-HN8-SB2-SS01-02		PC-HN8-SB2-SS01-02	
COLLECTION DATE:		08/26/93		08/26/93		08/13/93		08/13/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Iron	mg/kg	-		-		4490		2520	
Lead	mg/kg	2.10		5.50		1.80	J	1.20	0
Magnesium	mg/kg	-		-		637		502	
Manganese	mg/kg	-		-		133		52.30	U
Nickel	mg/kg	3.70	0	3.70	U	4.30		3.60	U
Potassium	mg/kg	-		-		263	(0)	238	U
Selenium	mg/kg	0.31	UL	0.31	UL	0.31	UL	0.31	U
Sodium	mg/kg	-		-		39	0	31	0
Vanadium	mg/kg	-		-		10.30		4.60	0
Zinc	mg/kg	7.10	B	10.70	B	10.10	B	5.60	B
TPH	mg/kg	6.30	U	9.90		29.90		11.30	
Total Petroleum Hydrocarbons									

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR: SAMPLE ID: DUPLICATE OF: COLLECTION DATE:	MW14		MW3		MW9		MW5		MW6		MW1	
	PC-P1-MW14-GW4		PC-P1-MW3-GW4		PC-MP2-MW9-GW4		PC-MP2-MW5-GW4		PC-MP2-MW6-GW4		PC-PF7-MW1-GW4	
	09/15/93	09/15/93	09/15/93	09/15/93	08/16/93	09/16/93	09/16/93	09/09/93	09/09/93	09/09/93	09/09/93	09/09/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	ug/l	0.35	U		0.35	U			0.35	U	0.35	U
Bromodichloromethane	ug/l	0.63			0.92	U			0.40	U	0.40	U
Chloroethane	ug/l	0.50	U		0.50	U			0.50	U	0.50	U
Chloroform	ug/l	0.68	J		0.75	J			0.35	U	0.35	U
Dibromochloromethane	ug/l	1.90			2.30	U			0.30	U	0.30	U
Methyl chloride	ug/l	0.50	U		0.50	U			0.50	U	0.50	U
Methylene chloride	ug/l	0.21	B		0.24	B			0.40	U	0.32	B
Tetrachloroethylene	ug/l	0.30	U		0.30	U			0.30	U	0.09	
Trichloroethylene	ug/l	0.30	U		0.30	U			0.30	U	0.12	
8020												
1,2-Dichlorobenzene	ug/l	0.15	U		0.15	U			3.40	B	0.15	U
1,3-Dimethylbenzene	ug/l	0.19			0.09				0.06		-	
1,4-Dimethylbenzene	ug/l	0.19			0.09				0.06		-	
Benzene	ug/l	0.11			0.35	U			0.35	U	0.35	U
Ethylbenzene	ug/l	0.22	B		0.20	U			0.20	U	0.20	U
Toluene	ug/l	0.20			0.26	B			0.15		0.25	U
LCBNA												
Diethyl phthalate	ug/l	0.60	B		3	J			5	U	5	U
Dimethyl phthalate	ug/l	5	U		0.60	J			5	U	5	U
Phenol	ug/l	2	B		5	U			5	U	0.60	
bis(2-Ethylhexyl)phthalate	ug/l	4	B		11	B			2	B	4	B
METALS												
Arsenic	ug/l	4	U		4	U			4	U	4	U
Beryllium	ug/l	4	U		1	U			1	U	1	U
Chromium	ug/l	10	U		8	U			8	U	8	U
Copper	ug/l	15	U		4.50	OB			4	U	4	U
Lead	ug/l	2	U		2	U			2	U	2	U
Lead, Dissolved	ug/l	2	UL		2	U			2	UL	2.30	(L)
Mercury	ug/l	0.20	U		0.20	U			0.20	U	0.20	U
Nickel	ug/l	35	U		18	U			18	U	18	U
Silver	ug/l	4	U		4	U			5.40	0	4	U
Thallium, Dissolved	ug/l	3	UJ		3	UL			3	UL	3	UL
Zinc	ug/l	7.50	0		245	0			9.70	OB	4	U
Zinc, Dissolved	ug/l	4	U		6	0			5.60	(B)	15.30	(B)
TPH												
Total Petroleum Hydrocarbons	mg/l	0.25	U		0.80	B			2.30	B	0.25	U

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR: SAMPLE ID: DUPLICATE OF: COLLECTION DATE:	MW5		MW9		MW1		MW8		MW4		MW9	
	PC-CG3-MW5-GW4	08/26/93	PC-CG3-MW9-GW4	08/26/93	PC-TF4-MW1-GW4	08/17/93	PC-TF4-MW8-GW4	08/17/93	PC-HN8-MW4-GW4	09/12/93	PC-HN8-MW9-GW4	09/12/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.18	R	R	R	R	0.35	U	0.35	U
Bromodichloromethane	ug/l	0.40	U	0.40	R	R	R	R	0.40	U	0.40	U
Chloroethane	ug/l	0.50	U	0.14	R	R	R	R	0.50	U	0.50	U
Chloroform	ug/l	0.35	U	0.13	R	R	R	R	0.33	B	0.35	U
Dibromochloromethane	ug/l	0.30	U	0.30	R	R	R	R	0.30	U	0.30	U
Methyl chloride	ug/l	0.50	U	0.14	R	R	R	R	0.50	U	0.50	U
Methylene chloride	ug/l	0.31	B	0.35	R	R	R	R	0.83	B	0.66	B
Tetrachloroethylene	ug/l	0.30	U	0.08	R	R	R	R	0.30	U	0.30	U
Trichloroethylene	ug/l	0.30	U	0.07	R	R	R	R	0.30	U	0.30	U
8020												
1,2-Dichlorobenzene	ug/l	0.15	U	0.15	R	R	R	R	0.15	U	2.20	
1,3-Dimethylbenzene	ug/l	-		-	R	R	-	-	-		-	
1,4-Dimethylbenzene	ug/l	-		-	R	R	-	-	-		-	
Benzene	ug/l	0.35	U	0.35	R	R	R	R	0.35	U	0.35	U
Ethylbenzene	ug/l	0.20	U	0.20	R	R	R	R	0.20	U	0.20	U
Toluene	ug/l	0.25	U	0.25	R	R	R	R	0.20		0.15	B
LCBNA												
Diethyl phthalate	ug/l	5	U	5	U	5	U	5	0.70		5	U
Dimethyl phthalate	ug/l	5	U	5	U	5	U	5	5	U	5	U
Phenol	ug/l	5	U	0.80	U	0.80	U	5	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	2	B	2	B	5	U	4	7	B	8	B
METALS												
Arsenic	ug/l	4	U	4	U	15.60	L	23	4	U	4	U
Beryllium	ug/l	1	U	1	U	1.40	0	1.50	1	U	1	U
Chromium	ug/l	8	U	8	U	61.10	0	67.20	8	U	8	U
Copper	ug/l	4	U	4	U	79.90		91.20	4	U	4	U
Lead	ug/l	2	U	2	U	56.60		62.70	2	U	2	U
Lead, Dissolved	ug/l	2	UL	2	UL	2	U	9.40	2	UL	2	UL
Mercury	ug/l	0.20	U	0.20	U	0.20	U	0.20	0.20	U	0.20	U
Nickel	ug/l	18	U	18	U	56	U	59.60	18	U	18	U
Silver	ug/l	4	U	4	U	4	U	4	4	U	4	U
Thallium, Dissolved	ug/l	3	UL	3	UL	3	UL	3	3	UL	3	UL
Zinc	ug/l	8.80	OB	73.20	B	137	U	163	15.30	OB	6.70	OB
Zinc, Dissolved	ug/l	20.90	B	21.80	B	4	U	7.10	6.20	OB	11.80	OB
TPH												
Total Petroleum Hydrocarbons	mg/l	1	B	0.40	B	1.50	B	0.80	0.25	U	0.60	B

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR: MW5 MW2
SAMPLE ID: PC-HN8-MW5-GW4 PC-FF7-MW2-GW4
DUPLICATE OF: PC-HN8-MW5-GW4
COLLECTION DATE: 09/14/93 09/14/93

UNITS: RESULT QUAL RESULT QUAL

8010	1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U
	Bromodichloromethane	ug/l	0.40	U	0.40	U
	Chloroethane	ug/l	0.50	U	0.50	U
	Chloroform	ug/l	0.35	U	0.35	U
	Dibromochloromethane	ug/l	0.30	U	0.30	U
	Methyl chloride	ug/l	0.50	U	0.50	U
	Methylene chloride	ug/l	0.21	B	0.16	B
	Tetrachloroethylene	ug/l	0.30	U	0.30	U
	Trichloroethylene	ug/l	0.30	U	0.30	U
8020	1,2-Dichlorobenzene	ug/l	0.14	B	0.15	U
	1,3-Dimethylbenzene	ug/l	-	-	-	-
	1,4-Dimethylbenzene	ug/l	-	-	-	-
	Benzene	ug/l	0.35	U	0.09	U
	Ethylbenzene	ug/l	0.12	U	0.20	U
	Toluene	ug/l	0.17	B	0.36	B
	LCBNA	ug/l	5	U	5	U
	Diethyl phthalate	ug/l	5	U	5	U
	Dimethyl phthalate	ug/l	5	U	5	U
	Phenol	ug/l	3	B	2	B
	bis(2-Ethylhexyl)phthalate	ug/l				
METALS						
	Arsenic	ug/l	13.30		17.40	
	Beryllium	ug/l	4	U	4	U
	Chromium	ug/l	46.30		52.20	
	Copper	ug/l	55.60		66.70	
	Lead	ug/l	44		58.50	
	Lead, Dissolved	ug/l	2	U	2	U
	Mercury	ug/l	0.20	U	0.23	
	Nickel	ug/l	61.30		74.70	
	Silver	ug/l	4	U	4	U
	Thallium, Dissolved	ug/l	3	UJ	3	UJ
	Zinc	ug/l	137		156	
	Zinc, Dissolved	ug/l	4	U	27.80	
TPH						
	Total Petroleum Hydrocarbons	mg/l	0.40	B	0.60	B

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR: SAMPLE ID: DUPLICATE OF: COLLECTION DATE:	SD002		SD004		SD004B		SD104B		SD006B		SD106B	
	PC-P1-SD002	09/13/93	PC-P1-SD004	09/13/93	PC-TF4-SD004B	07/30/93	PC-TF4-SD104B	07/30/93	PC-TF4-SD006B	07/30/93	PC-TF4-SD106B	07/30/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	3.10	U	2.70		3.60	U	3.60	U	3.90	U	0.43	B
1,1,1-Trichloroethane	1.40	B	2.70	B	4		3.30	B	2.70	B	3.90	B
Methylene chloride												
CLP 3/90	370	U	410	U	430	U	440	U	470	U	120	J
2,2'-Oxybis(1-Chloropropane)	370	U	410	U	430	U	440	U	470	U	54	U
4-Methylphenol	370	U	410	U	430	U	440	U	470	U	490	U
Anthracene	370	U	410	U	430	U	440	U	470	U	490	U
Benzo(a)anthracene	370	U	410	U	430	U	440	U	470	U	490	U
Benzo(a)pyrene	370	U	410	U	430	U	440	U	470	U	490	U
Benzo(b)fluoranthene	370	U	410	U	430	U	440	U	470	U	490	U
Benzo(ghi)perylene	370	U	410	U	430	U	440	U	470	U	490	U
Benzo(k)fluoranthene	370	U	410	U	430	U	440	U	470	U	490	U
Butyl benzyl phthalate	370	U	410	U	430	U	440	U	470	U	490	U
Carbazole	370	U	410	U	430	U	440	U	470	U	490	U
Chrysene	370	U	410	U	430	U	440	U	470	U	490	U
Di-n-butyl phthalate	370	U	410	U	430	U	440	U	470	U	490	U
Fluoranthene	370	U	410	U	430	U	440	U	470	U	490	U
Indeno(1,2,3-c,d)pyrene	370	U	410	U	430	U	440	U	470	U	490	U
Phenanthrene	370	U	410	U	430	U	440	U	470	U	490	U
Pyrene	370	U	410	U	430	U	440	U	470	U	490	U
METALS												
Aluminum	8.50		3.10		1.10	0	0.85	0	0.53	UL	1.30	0
Arsenic												
Barium												
Calcium	3.30		3.70		3.50		3.80		3.60		4.20	
Chromium	4.30		6.30		2.10	OB	2.10	OB	1.90	OB	1.90	OB
Copper												
Iron												
Lead	3.90	L	2.30	L	1.60	B	1.40	B	1.20	B	1.90	B
Magnesium												
Manganese												
Nickel	4	U	4.30	U	2.40	U	2.60	U	2.60	U	2.70	U
Selenium	0.34	UL	0.37	U	0.40	UL	0.40	U	0.43	U	0.45	U
Sodium												
Vanadium												
Zinc	12.30		19.60		9.10	B	8.50	B	10.50	B	8.30	B
TPH	85.30		41.10		6.30	U	6.30	U	51.90			
Total Petroleum Hydrocarbons											593	

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

LOCATOR: SAMPLE ID: SAMPLE ID: COLLECTION DATE:	SD015		SD115		SD3		SD4	
	PC-TF4-SD015		PC-TF4-SD115		PC-LF6-SD3		PC-LF6-SD4	
		08/01/93			08/17/93		08/17/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010								
1,1,1-Trichloroethane	ug/kg							
Methylene chloride	ug/kg	3.60	U				0.72	B
		1.30	U				1.50	B
CLP 3/90								
2,2'-Oxybis(1-Chloropropane)	ug/kg	440	U				500	U
4-Methylphenol	ug/kg	440	U				500	U
Anthracene	ug/kg	440	U				460	
Benzo(a)anthracene	ug/kg	440	U				450	
Benzo(a)pyrene	ug/kg	440	U				320	
Benzo(b)fluoranthene	ug/kg	440	U				690	
Benzo(ghi)perylene	ug/kg	440	U				61	
Benzo(k)fluoranthene	ug/kg	440	U				690	
Butyl benzyl phthalate	ug/kg	440	U				66	
Carbazole	ug/kg	440	U				88	
Chrysene	ug/kg	440	U				430	
Di-n-butyl phthalate	ug/kg	440	U				64	
Fluoranthene	ug/kg	440	U				650	
Indeno(1,2,3-c,d)pyrene	ug/kg	440	U				120	
Phenanthrene	ug/kg	440	U				460	
Pyrene	ug/kg	440	U				420	
METALS								
Aluminum	mg/kg	-					-	
Arsenic	mg/kg	0.53	U				2	B
Barium	mg/kg	-					-	
Calcium	mg/kg	-					-	
Chromium	mg/kg	2.80					5	L
Copper	mg/kg	1.40	QB				13.80	
Iron	mg/kg	-					-	
Lead	mg/kg	0.77	B				62.60	J
Magnesium	mg/kg	-					-	
Manganese	mg/kg	-					-	
Nickel	mg/kg	2.40	U				5.30	UL
Selenium	mg/kg	0.40	UL				0.97	L
Sodium	mg/kg	-					-	
Vanadium	mg/kg	-					-	
Zinc	mg/kg	14.30	B				67.40	B
TPH								
Total Petroleum Hydrocarbons	mg/kg	22.30					450	

Table J-17: Compounds and Elements Detected in Field Duplicates
MIANG, Alpena CRTC, Alpena, Michigan

	LOCATOR:	SW006	SW106	UNITS:	RESULT	QUAL	RESULT	QUAL
	SAMPLE ID:	PC-TF4-SW006	PC-TF4-SW106					
	DUPLICATE OF:		PC-TF4-SW006					
	COLLECTION DATE:	07/30/93	07/30/93					
8010	Chloroform	0.20	0.28					
	Trichloroethylene	1.20	1.20					
8020	1,2-Dichlorobenzene	0.16	1	J				
METALS								
Arsenic	ug/l	6.30	5.30					
Arsenic, Dissolved	ug/l	4	4.40					
Selenium, Dissolved	ug/l	5.60	3					
Zinc, Dissolved	ug/l	7.20	6.70					

- **Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses**, EPA Contract Laboratory Program, June 1991, (Region III modifications. June 1992) (SVOCs)
- **Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses**, EPA Contract Laboratory Program, February 1988 (priority pollutant metals)
- **Requirements for Quality Control of Analytical Data**, Hazardous Waste Remedial Actions Program (DOE/HWP-65/R1), July 1990 (VOCs by GC)

In addition to the above guidelines additional steps were taken to make the data validation process clearer to the reviewer. In the validation processes the "B" qualifier has been used to indicate potential contamination resulting from the laboratory process. An example of the modification of the guidelines is presented for VOCs. According to DOE/HWP-65/R1, July 1990 guidelines for VOC data validation analyzed by Gas Chromatograph, any compound detected in the sample and in the associated blank must be qualified when the result is less than five times the blank concentration. Sample results greater than the CRQL but less than five times the blank concentration should be qualified "U". If the sample result is greater than the CRQL and greater than five times the blank concentration no qualification is required. The use of the "U" qualifier in the first two cases could cause confusion as to the actual presence of the compound for results above the CRQL and possibly for those results below the CRQL. The "B" qualifier clearly indicates that the result may be suspect and may be a result of laboratory contamination. The use of the "B" qualifier is consistently applied to VOCs analyzed by GC methods, inorganic analysis, CLP SVOC, and TPH analysis. The proper application of the five-times and ten-times rule is used where applicable.

While it is a general practice in the validation of CLP organic methods to retain the laboratory added "J" qualifier for sample results below the CRQL, all laboratory added qualifiers are stripped from the data during the validation process. Since the CRQLs are known, or can be easily calculated for soil samples, the use of the "J" qualifier for results below the CRQL does not provide useful information to the reviewer. By removing this qualifier and only applying a "J" qualifier only in cases where specific QC requirements were not met reduces the potential for confusion. In general, in the CLP process where a "U" qualifier would be applied to indicate a result below the CRQL no qualifier has been added solely to indicate a result below the CRQL. Any qualifier added to the results below the CRQL indicates QC concerns.

All data validation qualifiers used were applied to the data as required by the forementioned guidelines. A complete summary of all data obtained and the qualifiers applied to that data is presented in Appendix K.

APPENDIX K: Laboratory Data Validation

Inorganic Data Validation

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: July 1993

Samples in SDG # 936415:

PFB1	P00GPW1	P00GPW2	P00GPW3
P02GMW1	P02GMW2	P04GMW2	P04W001
P04W002	P04W003	P04W004	P04W005
P04W006	P04W007	P04W008	P04W106
PBER1	PBER3	PBER4	PFB2
PFB3			

Overview

Twenty-one water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Antimony, cadmium, copper, and beryllium were detected in or more of the associated method blanks. No target elements were detected in any of the associated field blanks or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS values were within +/- 20%.

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P04W006F was used for matrix spike/matrix spike duplicate. The MS/MSD was within control limits.

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL". Spike element detects in samples with spike recovery greater than 115% were qualified "K". Spike element non-detects in samples with high spike recovery were not qualified.

ICP Serial Dilution

Five fold dilution of P04W006F was performed in accordance with CLP requirements. Zinc had greater than a 10% difference. No qualifiers added since there were no positive results greater than 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: July 1993

Samples in SDG # 936417:

P04W001F
P04W007F
P04W106F

P04W002F
P04W006F
P04W008F

P04W003F
PB-ER2

P04W004F
P04W005F

Overview

Ten water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

No target elements were detected in the method blanks.

ICP Interferences Check Samples

All ICP recovery values were within $\pm 20\%$

Laboratory Control Sample (LCS)

All LCS recovery values were within $\pm 20\%$.

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P04W006F was used for matrix spike/matrix spike duplicate. The MS/MSD was within control limits.

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P04W006F was performed in accordance with CLP requirements. Zinc had greater than a 10% difference. Qualifiers were not add since there were no positive results greater than 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 936421:

P00GPW1F	P00GPW2F	P02GMW1F	P00GPW3F
P5MW3GW4F	P2MW3GW4F	PBER08F	P3MW1GW4F
P2MW9GW4F	P5MW1GW4F	P2MW2GW4F	P2MW4GW4F
P8MW1GW4F	P4MW8GW4F	P4MW1GW4F	P02GMW5F

Overview

Sixteen water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

Samples P00GPW1F, P00GPW2F, P02GMW1F, and P00GPW3F were analyzed outside the required 28 day holding time for mercury. Non-detects, in the four samples were qualified "UL". There were no detects for mercury in these samples. All samples were analyzed within required 6 month holding time for other metals.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Antimony, Beryllium, Cadmium, and Arsenic were detected in the associated method blanks. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All required LCS recovery values were within +/- 20%

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P4MW1GW4F was used for matrix spike/matrix spike duplicate. The sample was found to be outside CLP control limits of 75 - 125 % for Thallium in the matrix spike. Non-detects were qualified "UL". There were no detects for Thallium in any samples in this sample delivery group. The sample was within control limits for the matrix spike duplicate.

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL". Spike element non-detects in samples with high spike recovery were not qualified. Non-detects, for the spike element, in samples with a spike recovery less than 10% were qualified "R".

ICP Serial Dilution

Five fold dilution of P00GPW1F was performed in accordance with CLP requirements. Antimony and Zinc reported greater than 10% difference in the serial analysis. Qualifiers were not added since there were no positive results greater the 50 times the IDL.

**Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993**

Samples in SDG # 936422:

P04GMW2F
P04GMW3
P02GMW9F
P04GMW4
P3MW1GW4

PFB6
P04GMW3F
P02GMW9
P5MW3GW4
P8MW1GW4

P06GMW2
P06GMW1
P04GMW4F
P2MW3GW4

P06GMW2F
PB-ER5
PB-ER5F
PBER08

Overview

Eighteen water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Beryllium, copper and antimony were detected in one or more of the method blanks. Zinc was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within $\pm 20\%$

Laboratory Control Sample (LCS)

All LCS recovery values were within $\pm 20\%$.

Duplicates

All duplicates were within the appropriate control limits.

Matrix Spike

Sample P04W006F was used for matrix spike/matrix spike duplicate. Thallium reported a low recovery in the matrix spike. Detects for thallium were qualified "L". Non-detects were qualified "UL".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one or more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Sample P04W006F was used for the serial dilution. All elements met accuracy criteria.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 936424:

PBER9	P2MW9GW4	PBER07	P5MW1GW4
P2MW2GW4	P2MW4GW4	P4MW8GW4	P4MW1GW4
PBER10	P02GMW5	PBER12	PBER11
PFB4	PFB05	P05MW3GW4	PBER13
P03MW2GW4	P03MW3GW4	P03MW4GW4	P05MW4GW4

Overview

Twenty water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Antimony, cadmium, copper, and silver were detected in the associated method blanks. Zinc was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS recovery values were within +/- 20%

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P2MW2GW4 was used for the matrix spike/matrix spike duplicate. The sample was found to be outside CLP control limits of 75 - 125 %, for Thallium in the matrix spike. Thallium reported low spike recovery of 71.8%. Non-detects for thallium were qualified "U". Detects for thallium were qualified "L".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P2MW2GW4 was performed in accordance with CLP requirements. Copper reported greater than 10% difference in the serial analysis. Qualifiers were not added, since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 936426:

P5MW3GW4F	P3MW2GW4F	P3MW3GW4F	P3MW4GW4F
P5MW4GW4F	P5MW2GW4F	P6MW3GW4F	P3MW5GW4F
PER14F	P3MW9GW4F	P9MW1GW4F	P9MW2GW4F
P9MW3GW4F	P9MW5GW4F	P8MW2GW4F	P6MW5GW4F
P8MW9GW4F	P6MW4GW4F	P5MW6GW4F	PER17F

Overview

Twenty water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Beryllium was detected in the method blanks. Zinc was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS recovery values were within +/- 20%.

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P3MW5GW4F was used for the matrix spike/matrix spike duplicate. The sample was found to be outside CLP control limits of 75 - 125 %, for thallium in the matrix spike. Thallium reported low recovery of 65.2%. Detects were qualified "L". Non-detects for these elements were qualified "UL".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P3MW5GW4F was performed in accordance with CLP requirements. Zinc reported greater than 10% difference in the serial analysis. Qualifiers were not add, since there were no positive results greater the 50 times the IDL were qualified with a "J".

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 936427:

P05MW2GW4	PER15	P6MW3GW4	P3MW5GW4
PER14	PBER-16	P3MW9GW4	P9MW1GW4
P9MW2GW4	P9MW3GW4	P9MW5GW4	P8MW2GW4
P6MW5GW4	P8MW9GW4	P6MW4GW4	P5MW6GW4
PER17	P8MW3GW4	P8MW4GW4	P6MW6GW4

Overview

Twenty water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within recommended holding times.

Initial Calibration and Continuing Calibration

All calibration results fell within the control limits of 90-110%.

Blanks

Antimony, zinc, beryllium, cadmium, and copper were detected in the associated method blanks. Zinc was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All required LCS recovery values were within +/- 20%

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P3MW5GW4 was used for the matrix spike/matrix spike duplicate. All target elements were within CLP control limits for the matrix spike. The sample was found to be outside CLP control limits of 75 - 125%, for selenium in the matrix spike duplicate. Selenium report a high recovery of 127.5%. Non-detects were not qualified. There were no detects for selenium in any samples in this sample delivery group.

Furnace Atomic Absorption QC Analysis

Several samples failed to meet recovery limits for one or more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P3MW5GW4 was performed in accordance with CLP requirements. Antimony and zinc reported greater than 10% difference in the serial analysis. Qualifiers were not added, since there were no positive results greater than 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 936429:

P8MW3GW4F	P8MW4GW4F	P6MW6GW4F	P5MW7GW4F
P5MW5GW4F	P6MW8GW4F	P6MW9GW4F	P9MW4FW4F
P7MW1GW4F	P1MW2GW4F	P2MW7GW4F	P2MW6GW4F
P3MW6GW4F	P1MW3GW4F	PER18F	P1MW4GW4F

Overview

Sixteen water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times. Two samples P5MW7GW4F and PER18F exceeded the allowed pH of 2. Detects in these samples were qualified "L". Non-detects were qualified "UL".

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Antimony was detected in the associated method blanks. Zinc was detected in one or more of the associated field blanks and or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS were within control limits.

Duplicates

All duplicates met the required control limits.

Matrix Spike

Sample P2MW6GW4F was used for the matrix spike/matrix spike duplicate. The sample was found to be outside the CLP control limits of 75 - 125%, for lead and thallium in the matrix spike. Lead and thallium reported low spike recoveries of 73.8% and 34.7% respectively. Non-detects for both elements were qualified "UL". Detects for both elements were qualified "L".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P2MW6GW4F was performed in accordance with CLP requirements. Zinc reported greater than 10% difference in the serial analysis. qualifiers were not added, since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 936430:

P5MW7GW4	P5MW5GW4	P6MW8GW4	P6MW9GW4
P9MW4GW4	PFB07	P7MW1GW4	P1MW2GW4
P2MW7GW4	P2MW6GW4	P3MW6GW4	P1MW3GW4
PER18	P1MW4GW4		

Overview

Fourteen water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Antimony, copper, selenium, and zinc were detected in the associated method blanks. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS recovery values were within +/- 20%

Duplicates

All duplicates were within the appropriate control limit.

Matrix Spike

Sample P2MW6GW4 was used for the matrix spike/matrix spike duplicate. The sample was found to be outside the CLP control limits of 75 - 125%, for thallium and selenium in the matrix spike. Thallium reported low spike recovery of 54.7%, selenium reported high spike recovery of 149%. Non-detects for thallium were qualified "UL". Detects for thallium were qualified "L". Detects for selenium were qualified "K". Non-detects for selenium were not qualified.

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P2MW6GW4 was performed in accordance with CLP requirements. Silver and zinc reported greater than 10% difference in the serial analysis. Qualifiers were not add, since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: September 1993

Samples in SDG # 936434:

P5MW9GW4F	P5MW8GW4F	P3MW7GW4F	P1M12GW4F
PER20F	P7MW2GW4F	P1M13GW4F	P8MW5GW4F
P1M11GW4F	P1MW1GW4F	P1M14GW4F	P7MW3GW4F
P9MW6GW4F	P1M6GW4F	PER21F	P6M10GW4F

Overview

Sixteen water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Cadmium, zinc, antimony, selenium, and arsenic were detected in the associated method blanks. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within $\pm 20\%$

Laboratory Control Sample (LCS)

All LCS recovery values were within $\pm 20\%$.

Duplicates

Zinc exceeded the control limits of $\pm 20\%$ for sample detects greater than 5 times the CRDL or \pm the CRDL for sample detects less than 5 times the CRDL for the duplicates. Zinc was qualified "J" in all samples.

Matrix Spike

Sample P5MW9GW4F was used for the matrix spike/matrix spike duplicate. The sample was found to be outside the CLP control limits of 75 - 125% for selenium and thallium in the matrix spike. Selenium and thallium reported low recoveries of 28.6 and 68.5% respectively. Detects for selenium were qualified "J", non-detects were qualified "R". Detects for thallium were qualified "L". Non-detects for thallium were qualified "UL".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P5MW9GW4F was performed in accordance with CLP requirements. Zinc reported greater than 10% difference in the serial analysis. Qualifiers were not added,

since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: September 1993

Samples in SDG # 936437:

P5MW9GW4	P5MW8GW4	P3MW7GW4	PER19
P1M12GW4	PER20	P7MW2GW4	P1M13GW4
P8MW5GW4	P1M11GW4	P1MW1GW4	P7MW3GW4
P9MW6GW4	P1MW6GW4	PER21	P6M10GW4

Overview

Seventeen water samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times. Two samples P5MW9GW4 and P1M6GW4 exceeded the required pH of 2. Detects in these samples were qualified "L". Non-detects were qualified "UL".

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Selenium was detected in the method blanks. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS recovery values were within +/- 20%.

Duplicates

All duplicates within appropriate control limits.

Matrix Spike

Sample P1M14GW4 was used for the matrix spike/matrix spike duplicate. The sample was found to be outside the CLP control limits of 75 - 125% for selenium and thallium in the matrix spike. Selenium and thallium reported low recoveries of 41.2 and 33.8% respectively. Detects were qualified "L". Non-detects for these elements were qualified "UL".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL". Spike element detects in samples with spike recovery greater than 115% were qualified "K".

ICP Serial Dilution

Five fold dilution of P1MW14GW4 was performed in accordance with CLP requirements. Zinc reported greater than 10% difference in the serial analysis. Qualifiers were not added, since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: July 1993

Samples in SDG #937345:

P04D001	P04D001A	P04D002B	P04D002A
P04D003	P04D004A	P04D004B	P04D005A
P04D005B	P04D104B	P04D106B	P04D006B
P04D006A	P04D007	P04D008	P04D009A
P04D010A	P04D010B	P04D015	

Overview

Twenty soil samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

Arsenic exceeded the upper control limit during the initial and continuing calibrations. Detects for Arsenic were qualified "K". All other initial and continuing calibrations fell within the control limits of 90-110%.

Blanks

Beryllium and zinc were detected in the associated method blanks. Zinc, copper, and lead were detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within $\pm 20\%$

Laboratory Control Sample (LCS)

All LCS recovery values were within acceptable limits.

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P04D004 was used for the matrix spike/matrix spike duplicate. The sample was found to be outside the CLP control limits of 75 - 125%, for antimony in the matrix spike. Antimony reported a low spike recovery of 69%. Non-detects for antimony were qualified "UL". Detects for antimony were qualified "L".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one or more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P3B120810 was performed in accordance with CLP requirements. Cobalt, copper, and zinc reported greater than 10% difference in the serial analysis. No qualifiers were added, since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 937349:

P04D017	P04D013	P04D011	P04D012
P04D016	P04D018	P04D014	P04D115
P00B10001	P00B10203	P00B10910	P08B20102
P08B20203	P08B20910	P08B30102	P08B30911
P08B40002	P08B41214		

Overview

Eighteen soil samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibrations were within the control limits of 90-110%.

Blanks

Iron was detected in one or more of the associated method blanks. Lead, copper, and zinc were detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within $\pm 20\%$

Laboratory Control Sample (LCS)

All elements reported acceptable results during the LCS analysis..

Duplicates

All duplicates were within the appropriate control limits.

Matrix Spike

Sample P08B30911 was used for matrix spike/matrix spike duplicate. Antimony and cadmium were outside the control limits of $\pm 25\%$. Antimony and cadmium reported low spike recoveries of 67.9 and 70% respectively. Non-detects for both elements were qualified "UL". Detects for both elements were qualified "L".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL". Spike element non-detects in samples with high spike recovery were not qualified.

ICP Serial Dilution

Five fold dilution of P08B30911 was performed in accordance with CLP requirements. Zinc reported greater than 10% difference in the serial analysis. Qualifiers were not added since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 937352:

P02B60002	P08B61213	P00B20001	P02B70002
P08B71213	P08B60002	P02B40304	P00B20203
P02B80506	P02B80002	P02B70506	P02B60506
P08B70002	P02B90406	P08B81012	P08B80102
P02B90304	P08B80910	P6D2	

Overview

Nineteen soil samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Silver, zinc, and arsenic were detected in the associated method blanks. Zinc was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS recoveries were within +/- 20%.

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P02B40304 was used for the matrix spike/matrix spike duplicate. The sample was found to be outside the CLP control limits of 75 - 125%, for antimony and cadmium in the matrix spike. Antimony and cadmium reported low spike recoveries of 73.5 and 74.7%. Non-detects for both elements were qualified "UL". Detects for both elements were qualified "L".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P02B40304 was performed in accordance with CLP requirements. Chromium and zinc reported greater than 10% difference in the serial analysis. No qualifiers were added, since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 937354:

P6D1	P6D3	P6D4	P02B40002
P02B20405	P02B50405	P02B30405	P02B20002
P02B30507	P02B50002	P02B30002	P02B40405
P1B120002	P1B20002	P1B110304	P1B100002
P1B100304	P1B130304		

Overview

Eighteen soil samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

Arsenic reported a low percent recovery of 89%. Detects for arsenic were qualified "L". Non-detects were qualified "UL". All other initial and continuing calibrations were within the control limits of 90-110%.

Blanks

Silver and arsenic were detected in one or more of the associated method blanks. Zinc was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within $\pm 20\%$

Laboratory Control Sample (LCS)

Mercury and thallium exceeded control limits LCS analysis. Mercury reported a high recovery of 131.5%, thallium reported a low recovery of 64.4%. Detects for thallium were qualified "L". Non-detects for cadmium were qualified "UL". Sample detects for mercury were qualified "K", non-detects were not qualified.

Duplicates

Lead exceeded the appropriate control limits of $\pm 2 \times \text{CRDL}$ for sample detects less than 5 times the CRDL or $\pm 20\%$ for sample detects greater than 5 times CRDL. Lead was qualified "J" in all samples.

Matrix Spike

Antimony, cadmium, lead, thallium, zinc, and nickel were outside the control limits of $\pm 25\%$. Antimony, chromium, thallium, zinc, and nickel reported low recoveries of 63.4, 62.9, 66.8, 14.1, and 73.8 respectively. Non-detects for elements reporting low recoveries were qualified "UL". Detects were qualified "L". Detects for lead, reporting a recovery of 390.1% were qualified "K". Non-detects for lead were not qualified.

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL". Spike element non-detects in samples with high spike recovery were not qualified.

ICP Serial Dilution

A five fold dilution was performed in accordance with CLP requirements. Chromium and nickel reported greater than 10% difference in the serial analysis. Qualifiers were not added since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 937355:

P1B130002	P01B90304	P01B90002	P01B70304
P01B70002	P01B80002	P01B60304	P01B60002
P01B50002	P01B50304	P01B40001	P01B40203
P01B80304	P3B110002	P3B111012	P3B120002
P3B121012	P3B130002	P3B131012	P3B130204

Overview

Twenty soil samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

No target elements were detected in the associated method blanks. Zinc was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS recoveries were within acceptable limits.

Duplicates

Duplicates were within the appropriate control limits.

Matrix Spike

Sample P1B130002 was used for the matrix spike/matrix spike duplicate. The sample was found to be outside the CLP control limits of 75 - 125% for antimony and cadmium in the matrix spike. Antimony and cadmium reported low spike recoveries of 52.3 and 65.6% respectively. Non-detects for both elements were qualified "UL". Detects for both elements were qualified "L".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P1B130002 was performed in accordance with CLP requirements. Zinc and chromium reported greater than 10% difference in the serial analysis. Qualifiers were not added, since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: August 1993

Samples in SDG # 937356:

P3B200002	P3B110406	P3B120406	P3B130406
P3B120810			

Overview

Five soil samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

Arsenic exceeded the lower control limit during the initial and continuing calibrations. Detects for Arsenic were qualified "L". Non-detects were qualified "UL". All other initial and continuing calibrations fell within the control limits of 90-110%.

Blanks

No target elements were detected in any of the associated method blanks. Zinc was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS recoveries were within acceptable control limits.

Duplicates

All duplicates were within appropriate control limits

Matrix Spike

Sample P3B120810 was used for matrix spike/matrix spike duplicate. The sample was found to be outside CLP control limits for antimony, arsenic, and cadmium in the matrix spike. Non-detects for elements displaying a low spike recovery, antimony (68.9%) and cadmium (69.3%) were qualified "UL". Detects for elements with low spike recovery were qualified "L". Non-detects for arsenic (128.1%) were not qualified. Detects for arsenic were qualified "K".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one or more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P3B120810 was performed in accordance with CLP requirements. Chromium, copper, and zinc reported greater than 10% difference in the serial analysis. Qualifiers were not added since there were no positive results greater the 50 times the IDL.

Phelps Collins
Alpena, MI
Inorganic Data Validation CLP TAL
Sampling Dates: September 1993

Samples in SDG # 937358:

P2B100810	P2B100001	P2B100304	P1D002
P1D003	P1D004	P1D001	P1D005

Overview

Eight soil samples were validated for inorganic compounds analyzed by CLP TAL in accordance with EPA CLP statement of work 3/90 for priority pollutant metals.

Summary

All samples were successfully analyzed for target compounds. QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All samples were analyzed within required holding times.

Initial Calibration and Continuing Calibration

All initial and continuing calibration results fell within the control limits of 90-110%.

Blanks

Zinc and selenium were detected in the associated method blanks. Sample detects were qualified "B" if the concentration detected was less than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates. Sample non-detects were not qualified. Sample detects with concentrations greater than 5 times the highest concentration detected in any of the associated blanks or equipment rinseates were not qualified.

ICP Interferences Check Samples

All ICP recovery values were within +/- 20%

Laboratory Control Sample (LCS)

All LCS were within the +/- 20%

Duplicates

All duplicates were within appropriate control limits.

Matrix Spike

Sample P2B100810 was used for matrix spike/matrix spike duplicate. The sample was found to be outside CLP control limits for antimony, cadmium, and lead in the matrix spike. Antimony, cadmium, and lead reported low spike recoveries of 69.2, 67.9, and 65.9% respectively. Non-detects were qualified "UL". Detects were qualified "L".

Furnace Atomic Absorption QC Analysis

Several samples failed to meet the recovery limits for one of more of the spikes. Detects, for the spike, in samples with a spike recovery of less than 85% were qualified "L". Spike element non-detects in samples with a spike recovery of less than 85% but greater than 10% were qualified "UL".

ICP Serial Dilution

Five fold dilution of P2B100810 was performed in accordance with CLP requirements. Zinc reported greater than 10% difference in the serial analysis. Qualifiers were not added since there were no positive results greater the 50 times the IDL.

Hexavalent Chromium Data Validation

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**Phelps Collins
Alpena, MI
Hexavalent Chromium Data Validation
Sampling Dates: July-September 1993**

Phelps Collins Hexavalent Chromium - Soil Samples

Sample Group Dated: 09/29

P3B110002	P3B111012	P3B120002	P3B121012
P3B130002	P3B131012	P3B130204	P3B200002
P3B110406	P3B120406	P3B130406	

Sample Group Dated: 10/13

P2B100810	P2B100001	P2B100304	P1D002
P1D003	P1D004	P1D001	P1D005

Sample Group Dated: 09/23-1

P02B40405	P1B120002	P1B200002	P1B110002
P1B110304			

Sample Group Dated: 09/23

P08B70002	P02B90406	P08B81012	P08B80102
P02B90304	P08B80910	P6D2	P6D3
P6D1	P6D4	P02B40002	P02B20405
P02B50405	P02B30405	P02B20002	P02B30507
P02B50002	P02B30002		

Sample Group Dated: 09/17

P08B20102	P08B20203	P08B20910	P08B30102
P08B30911	P08B40002	P08B41214	P02B60002
P08B61213	P00B20001	P02B70002	P08B71213
P08B60002	P02B40304	P00B20203	P02B80506
P02B80002	P02B70506	P02B60506	

Sample Group Dated: 09/25

P1B100002	P1B100304	P1B130304	P1B130002
P01B90304	P01B90002	P1B70304	P01B70002
P01B80002	P01B60304	P01B60002	P01B50304
P01B40001	P01B40203	P01B80304	

Overview

Seventy-seven soil samples were analyzed according to SW-846 7196a requirements for analysis of Hexavalent Chromium.

Summary

All Sample were successfully analyzed for hexavalent chromium. One sample, P08B20910 contained a hexavalent chromium concentration above the detection limit. the QA/QC level was HAZWRAP Level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were analyzed within allowed holding times

Blanks

There were no detects for hexavalent chromium in any on the associated blanks.

Matrix Spike/Matrix Spike Duplicate

All matrix spike/matrix spike duplicates were within the 75 - 125% recovery criteria.

TPH Data Validation

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**Phelps Collins
Alpena, MI
Total Petroleum Hydrocarbons Data Validation
Sampling Dates: July-September 1993**

Phelps Collins Total Petroleum Hydrocarbons - Soil Samples

Sample Group Dated: 08/31/-1

P04D001	P04D001A	P04D002B	P04D002A
P04D003	PORD004A	P04D004B	P04D005A
P04D104B	P04D005B		

Sample Group Dated: 08/31-2

P04D106B	P04D006B	P04D006A	P04D007
P04D008	P04D009A	P04D009B	P04D010A
P04D010B	P04D015		

Sample Group Dated: 09/02

P04D017	P04D013	P04D011	P04D012
P04D016	P04D018	P04D014	P04D115

Sample Group Dated: 09/06

P00B10001	P00B10203	P00B10910	P08B20102
P08B20203	P08B20910	P08B30102	P08B30911
P08B40002	P08B41214		

Sample Group Dated: 09/16-1

P02B60002	P08B61213	P00B20001	P02B70002
P08B71213	P08B60002	P02B40304	P02B80506

Sample Group Dated: 09/16-2

P02B80002	P02B70506	P02B60506	P08B70002
P02B90406	P08B1012	P08B80102	P02B90304
P08B80910			

Sample Group Dated: 09/17

P02B50002	P02B30002	P02B40405
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Sample Group Dated: 09/24-1

P01B70304	P01B70002	P01B80002	P01B60304
P01B60002	P01B50002	P01B50304	P01B40001
P01B40203	P01B80304		

Sample Group Dated: 09/24-2

P02B20405	P02B50405	P02B30405	P02B20002
P02B0507	P1B120002	P1B200002	P1B110002
P1B110304	P1B100002	P1B100304	P1B130304
P1B130002	P01B90304	P01B90002	

Sample Group Dated: 09/24-3

P6D2	P6D3	P6D1	P6D4
P02B40002	P02B20405	P02B50405	P02B30405
P02B20002	P02B30507		

Sample Group Dated: 09/27-1

P3B130406	P3B120810
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Sample Group Dated: 09/27-2

P3B110002	P3B111012	P3B120002	P3B121012
P3B130002	P3B131012	P3B130204	P3B200002
P3B110406	P3B120406		

Sample Group Dated: 10/15

P2B100810	P2B100001	P2B100304	P1D002
P1D003	P1D004	P1D001	P1D005

Phelps Collins Total Petroleum Hydrocarbons - Soil Samples

Sample Group Dated: 08/25

PFB1	P04W001	P04W002	P04W003
P04W004			

Sample Group Dated: 08/31

PFB2	P04W007	P04W006	PBER1
P04W005	P04W106	P04W008	PBER3
PBER4			

Sample Group Dated: 09/09

P00GPW1	P00GPW2	PFB3	P02GMW1
P00GPW3	P04GMW2	PFB6	P06GMW2
P04GMW3	P06GMW1		

Sample Group Dated: 09/10

PBER5	P02GMW9	P04GMW4	P5MW3GW4
PBER08	P3MW1GW4	P8MW1GW4	PBER9
P2MW2GW4	P02GMW5		

Sample Group Dated: 09/16

P2MW3GW4	P2MW9GW4	PBER07	P5MW1GW4
P2MW4GW4	P4MW8GW4	P4MW1GW4	PBER10
PBER12	PBER11		

Sample Group Dated: 09/23

PFB3	PFB05	P05MW3GW4	PBER13
P03MW2GW4	P03MW3GW4	P03MW4GW4	P05MW4GW4
P05MW2GW4			

Sample Group Dated: 09/27

PER15	P6MW3GW4	P3MW5GW4	PER14
PBER16	P3MW9GW4	P9MW2GW4	P9MW1GW4
P9MW3GW4	P9MW5GW4		

Sample Group Dated: 09/30

P5MW5GW4	P6MW8GW4	P6MW9GW4	P9MW4GW4
P7MW1GW4	P1MW2GW4	P2MW7GW4	P2MW6GW4
PFB07	P3MW6GW4		

Sample Group Dated: 09/30-1

P8MW2GW4	P6MW5GW4	P8MW9GW4	P6MW4GW4
P5MW6GW4	PER17	P8MW3GW4	P8MW4GW4
P6MW6GW4	P5MW7GW4		

Sample Group Dated: 10/03

P1MW3GW4

Sample Group Dated: 10/05

PER18	P1MW4GW4	P5MW9GW4	P5MW8GW4
P3MW7GW4	PER19	P9MW6GW4	P1MW6GW4
PER21	P6M10GW4		

Sample Group Dated: 10/15

P1M12GW4	PER20	P7MW2GW4	P1M13GW4
P8MW5GW4	P1M11GW4	P1MW1GW4	P1M14GW4
P7MW3GW4			

Overview

One hundred and thirteen soil and one hundred and three water samples were analyzed according to method 418.1 requirements for analysis of Total Petroleum Hydrocarbons.

Summary

All Samples were successfully analyzed for TPH. Several samples contained TPH concentration above the detection limit. the QA/QC level was HAZWRAP Level C for all

samples.

Major Problems

None

Minor Problems

Holding Times

All samples were analyzed within allowed holding times

Blanks

TPH was detected in several of the associated blanks. Samples with concentration less than 5 times the concentration detected in any of the associated blanks were qualified "B". Sample detects greater than 5 times the blank concentration were not qualified. Non-detects were not qualified.

Matrix Spike/Matrix Spike Duplicate

All matrix spike/matrix spike duplicates were within the 75 - 125% recovery criteria.

Volatile Organic Compound Data Validation

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Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/820
Sampling Dates: July - August 1993

Samples in SDG # 363

P04W001	P04W002	P04W003	P04W004
PTB1	PTB2	PFB2	P04W007
P04W006	PBER1	P04W005	P04W106
P04W008	PTB3	PTB4	PBER3
PBER4	PTB5	PTB6	P00GPW1

Overview

Twenty water samples for SDG # 363 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Nine samples; P04W004, PTB1, PFB2, P04W007, P04W006, PBER1, P04W106, P04W008, and PTB3 required second column confirmation for halogenated compounds organic compounds. Eleven samples; P04W002, P04W003, P04W004, P04W007, P04W006, PBER1, PTB4, PBER3, PBER4, and PTB5 required second column confirmation for aromatic organic compounds. Several of the samples contained detects for various target compounds below the Contract Required Quantitation limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All initial analysis were performed within the required holding time of 14 days for preserved samples. The confirmation analysis of sample PTB1 was performed 1 day out of the required holding time of 14 days for preserved samples. Detects in PTB1 were qualified with a "J" for estimated. Non-detects associated with compounds detected in the initial analysis were qualified "UJ".

Surrogates

Sample P04W007 reported a low surrogate recovery for the surrogate BFB in the halogenated confirmation analysis. There were no associated detects in the sample, associated non-detects were qualified "UJ". All other samples met all required surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15\%$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
PFB2	Methylene Chloride
P04W007	Methylene Chloride
P04W006	Methylene Chloride
PBER1	Methylene Chloride
P04W005	Methylene Chloride
P04W106	Methylene Chloride
P04W001	Methylene Chloride

SAMPLE	COMPOUND
P04W002	Methylene Chloride
P04W003	Methylene Chloride
P04W004	Methylene Chloride
P04W008	Methylene Chloride
P04W007	Chloroform
P04W004	1,1,1-Trichloroethane
P04W001	Toluene
P04W002	Toluene
P04W003	Toluene
P04W004	Toluene
PTB3	Toluene
PTB4	Toluene
PBER3	Toluene
PBER4	Toluene
PTB5	Toluene
PTB6	Toluene
P00GPW1	Toluene
P04W004	Benzene
PTB2	1,3-Dichlorobenzene
P04W001	1,4-Dichlorobenzene
PTB1	1,4-Dichlorobenzene
P04W001	1,2-Dichlorobenzene
PTB1	1,2-Dichlorobenzene
PTB3	1,2-Dichlorobenzene
PBER4	1,2-Dichlorobenzene
PTB6	1,2-Dichlorobenzene
P00GPW1	1,2-Dichlorobenzene

Matrix Spike

Sample P04W001 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) met all accuracy criteria for both the halogenated and aromatic MS/MSD. All of the relative percent recovery (RPD) met accuracy criteria for the halogenated MS/MSD. Three of the RPD's failed to meet accuracy criteria for the aromatic MS/MSD. Data was not qualified solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 365

P04D001	P04D001A	P04D002B	P04D002A
P04D003	P04D004A	P04D004B	P04D005A
P04D104B	P04D005B	P04D106B	P04D006B
P04D006A	P04D007	P04D008	P04D009A
P04D009B	P04D010A	P04D010B	P04D015

Overview

Twenty soil samples for SDG# 365 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Eighteen samples; P04D001, P04D001A, P04D002B, P04D002A, P04D003, P04D004A, P04D004B, P04D005A, P04D104B, P04D005B, P04D006B, P04D007, P04D008, P04D009A, P04D009B, P04D010A, P04D010B and P04D015 required second column confirmation for halogenated volatile organics. Four samples; P04D009A, P04D010A, P04D010B, and P04D015 required second column confirmation for aromatic volatile organics. Several samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All initial analysis were performed within the required holding time of 14 days samples. Nine samples; P04D001, P04D002A, P04D007, P04D008, P04D009A, P04D009B, P04D010A, P04D010B and P04D015 requiring second column confirmation, for halogenated target compounds, were analyzed 1 to 11 days out of the required holding time. All four samples; P04D009A, P04D010A, P04D010B, and P04D015 requiring second column analysis for aromatic target compounds were analyzed 3 to 11 days out of the required holding time. All target analytes detected out of holding time were qualified "J" for estimated. Non-detects that corresponded to a detect in the initial analysis were qualified "UJ".

Surrogates

Samples P04D005A, P04D005B, and P04D006A reported high recovery for the surrogate TCFM in the initial halogenated analysis. Samples P04D009A, P04D009B, P04D010A, and P04D010B reported low recovery for the surrogate BFB in either the initial and/or the confirmation halogenated analysis. Samples P04D009A, P04D010A, and P04D010B reported low surrogate recovery for BFB in either the initial and/or the confirmation aromatic analysis. Samples that reported high surrogate recoveries were not qualified. Associated detects in samples that reported low surrogate recoveries were qualified "J" for estimated. Associated non-detects were qualified "UJ". All other samples met all required halogenated and aromatic surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P04D001	Methylene Chloride
P04D002A	Methylene Chloride
P04D106B	Methylene Chloride
P04D006B	Methylene Chloride
P04D006A	Methylene Chloride
P04D007	Methylene Chloride
P04D008	Methylene Chloride
P04D009A	Methylene Chloride
P04D009B	Methylene Chloride
P04D010A	Methylene Chloride
P04D010B	Methylene Chloride
P04D015	Methylene Chloride
P04D001	Chloroform
P04D001A	Chloroform
P04D002B	Chloroform
P04D002A	Chloroform
P04D003	Chloroform
P04D004A	Chloroform
P04D004B	Chloroform
P04D005A	Chloroform
P04D104B	Chloroform
P04D005B	Chloroform
P04D106B	Chloroform
P04D006B	Chloroform
P04D006A	Chloroform
P04D007	Chloroform
P04D008	Chloroform
P04D009A	Chloroform
P04D009B	Chloroform

SAMPLE	COMPOUND
P04D010A	Chloroform
P04D010B	Chloroform
P04D015	Chloroform
P04D002A	1,1,1-Trichloroethane
P04D106B	1,1,1-Trichloroethane
P04D006A	1,1,1-Trichloroethane
P04D010B	1,1,1-Trichloroethane
P04D001	1,2-Dichlorobenzene
P04D003	1,2-Dichlorobenzene
P04D007	1,2-Dichlorobenzene
P04D008	1,2-Dichlorobenzene
P04D009B	1,2-Dichlorobenzene
P04D010B	1,2-Dichlorobenzene
P04D010B	Toluene
P04D010B	1,4-Dichlorobenzene
P04D010B	Dibromochloromethane

Matrix Spikes

Sample P04D004 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) met all accuracy criteria for both the halogenated MS/MSD and aromatic MS/MSD. Relative percent difference (RPD) values met all accuracy criteria for the halogenated MS/MSD. RPD failed to meet accuracy criteria for 3 of the aromatic spike compounds. Data was not qualified solely on matrix spike/matrix spike duplicate data

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 368

P04D017	P04D013	P04D011	P04D012
P04D016	P04D018	P04D014	P04D015
P00B10001	P00B10203	P00B10910	P08B20102
P08B20203	P08B20910	P08B30102	P08B30911
P08B40002	P08B41214		

Overview

Eighteen soil samples for SDG# 368 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Fifteen samples; P04D017, P04D013, P04D011, P04D012, P04D016, P04D018, P04D014, P04D015, P00B10001, P00B10910, P08B20102, P08B30102, P08B30911, P08B40002 and P08B41214 required second column confirmation for halogenated volatile organics. Two samples P04D017 and P08B10001 required second column confirmation for aromatic volatile organics. Several samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

The initial halogenated analysis for samples P04D017 and P08B10001 were performed 3 days out of holding times. The initial aromatic analysis for samples P04D017 and P08B10001 were performed 3 and 2 days respectively, out of the required holding time of 14 days. Fourteen samples; P04D017, P04D013, P04D011, P04D012, P04D016, P04D018, P04D014, P04D015, P00B10001, P00B10910, P08B30102, P08B30911, P08B40002, P08B41214 were confirmed for halogenated analytes out of required holding times by 3 to 26 days. P04D017 and P08B10001 were confirmed for aromatic compounds 26 and 3 days respectively, out of the required holding time. All target analytes detected out of holding time were qualified "J" for estimated. Non-detects, in samples confirmed out of holding times, that corresponded to a detect in the initial analysis was qualified "UJ". All other samples were analyzed within the required holding time.

Surrogates

Samples P08B30911, P08B40002, P08B41214 and P08B20102 reported the surrogate TCFM out of control limits in either the initial and/or the confirmation halogenated analysis. Samples P04D017, P08B30102, P08B10001, and P08B20102 failed to meet required surrogate recovery limits for the surrogate BFB in either the initial and/or the confirmation halogenated analysis. Samples P04D017 and P08B10001 reported low surrogate recovery for the surrogate BFB in either the initial and/or the confirmation aromatic analysis. No qualifiers were added for samples that reported high surrogate recovery. Detects associated with low surrogate recovery were qualified "J" for estimated, non-detects were qualified "UJ". All other samples met all surrogate recovery limits for both halogenated and aromatic surrogates.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P04D014	Methylene Chloride
P04D115	Methylene Chloride
P00B10001	Methylene Chloride
P00B10203	Methylene Chloride
P00B10910	Methylene Chloride
P08B20102	Methylene Chloride
P04D017	Methylene Chloride
P04D013	Methylene Chloride
P04D011	Methylene Chloride
P04D012	Methylene Chloride
P04D016	Methylene Chloride
P04D018	Methylene Chloride
P08B20203	Methylene Chloride
P08B20910	Methylene Chloride
P08B30102	Methylene Chloride
P08B30911	Methylene Chloride
P08B40002	Methylene Chloride
P08B41214	Methylene Chloride
P04D013	Chloroform
P04D011	Chloroform
P04D012	Chloroform
P04D016	Chloroform
P04D018	Chloroform
P04D014	Chloroform
P04D115	Chloroform
P00B10203	Chloroform
P00B10910	Chloroform
P08B20102	Chloroform
P08B20203	Chloroform

SAMPLE	COMPOUND
P08B20910	Chloroform
P08B30102	Chloroform
P08B30911	Chloroform
P08B40002	Chloroform
P08B41214	Chloroform
P04D011	1,1,1-Trichloroethane
P04D018	1,1,1-Trichloroethane
P04D014	1,1,1-Trichloroethane
P04D115	1,1,1-Trichloroethane
P00B10001	1,1,1-Trichloroethane
P00B10203	1,1,1-Trichloroethane
P00B10910	1,1,1-Trichloroethane
P08B20102	1,1,1-Trichloroethane
P08B20203	1,1,1-Trichloroethane
P08B20910	1,1,1-Trichloroethane
P08B30102	1,1,1-Trichloroethane
P08B30911	1,1,1-Trichloroethane
P08B40002	1,1,1-Trichloroethane
P04D017	Toluene
P08B20102	Toluene
P08B20203	Toluene
P08B20910	Toluene
P08B30911	Toluene
P08B40002	Toluene
P08B41214	Toluene
P08B20102	o-Xylene
P08B20203	o-Xylene
P08B30102	o-Xylene
P08B30911	o-Xylene

SAMPLE	COMPOUND
P08B40002	o-Xylene
P08B41214	o-Xylene
P08B309111	Styrene
P04D017	1,3-Dichlorobenzene
P08B30911	1,3-Dichlorobenzene
P08B20910	1,4-Dichlorobenzene
P0830102	1,4-Dichlorobenzene
P08B30102	Dibromochloromethane
P08B30102	Bromoform

Matrix Spikes

Sample P04D011 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) failed to meet accuracy criteria for methylene chloride in the matrix spike and matrix spike duplicate. Spike recovery met all accuracy criteria for the aromatic MS/MSD. Relative percent difference (RPD) values met all accuracy criteria for both the halogenated and aromatic MS/MSD.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 369

P00GPW2	PFB3	P02GMW1	P00GMW1
PTB7	P04GMW2	PFB6	P06GMW2
P04GMW3	PTB8	P06GMW1	PB-ER5
P02GMW9	P04GMW4	P-TB9	P5MW3GW4
PTB10			

Overview

Seventeen water samples for SDG# 369 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Five samples; PFB3, P00GPW3, PTB9, P5MW3GW4, and P06GMW1 required second column confirmation for halogenated volatile organics. Five samples; PTB7, PTB9, P5MW3GW4, PFB6, and P04GMW3 required second column confirmation for aromatic volatile organics. Several samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All initial analysis were performed within the required holding time of 14 days for preserved samples. One sample, PFB3, requiring second column conformation analysis was analyzed 1 day out of required holding times. Based on professional judgement qualifiers were not added to confirmation results which did not indicate compound loss, between the initial and conformation analysis.

Surrogates

Samples P06GMW1, PTB9, and P5MW3GW4 failed to meet the surrogate recovery limits for TCFM in either the initial or conformation analysis. Samples which reported high surrogate recoveries were not qualified. Detects in samples which reported low surrogate recoveries were qualified "J" for estimated, non-detects were qualified "UJ". All other samples met all required surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P00GPW3	Methylene Chloride
PFB6	Methylene Chloride
PTB8	Methylene Chloride
P-TB9	Methylene Chloride
P5MW3GW4	Methylene Chloride
PTB10	Methylene Chloride
PFB6	1,1,1-Trichloroethane
PO0GPW2	Toluene
PFB3	Toluene
P02GMW1	Toluene
PO0GPW3	Toluene
PTB7	Toluene
P04GMW2	Toluene
P06GMW2	Toluene
P04GMW3	Toluene
PTB8	Toluene
P06GMW1	Toluene
PB-ER5	Toluene
P02GMW9	Toluene
P04GMW4	Toluene
PTB9	Toluene
PTB10	Toluene
PFB6	1,3-Dichlorobenzene
PB-ER5	1,3-Dichlorobenzene
P02GMW9	1,3-Dichlorobenzene
P04GMW4	1,3-Dichlorobenzene
P04GMW2	1,4-Dichlorobenzene
P06GMW1	1,4-Dichlorobenzene

SAMPLE	COMPOUND
PB-ER5	1,4-Dichlorobenzene
P02GMW9	1,4-Dichlorobenzene
P04GMW4	1,4-Dichlorobenzene
P00GPW2	1,4-Dichlorobenzene
P02GMW1	1,4-Dichlorobenzene
P00GPW3	1,4-Dichlorobenzene
P00GPW2	1,2-Dichlorobenzene
PFB3	1,2-Dichlorobenzene
P02GMW1	1,2-Dichlorobenzene
P00GPW3	1,2-Dichlorobenzene
P06GMW3	1,2-Dichlorobenzene
P06GMW1	1,2-Dichlorobenzene
PB-ER5	1,2-Dichlorobenzene
P02GMW9	1,2-Dichlorobenzene
P04GMW4	1,2-Dichlorobenzene

Matrix Spikes

Sample P00GPW3 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) and relative percent difference (RPD) values met accuracy criteria.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 372

P2MW3GW4	PBER08	P3MW1GW4	P8MW1GW4
PBER9	P2MW9GW4	PBER07	P5MW1GW4
P2MW2GW4	P2MW4GW4	PTB12	TB

Overview

Twelve water samples for SDG# 372 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Sample P8MW1GW4 required second column confirmation for halogenated volatile organics. Six samples; PBER07, PTB12, TB, PBER08, P3MW1GW4, and P2MW9GW4 required second column confirmation for aromatic volatile organics. Sample P5MW1GW4 required dilution and reanalysis for the aromatic analysis. Several samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All initial analysis were performed within the required holding time of 14 days for preserved samples. The aromatic confirmation analysis for samples PTB12, TB, and PBER08 were performed 1 to 29 days out of the required holding time. All other samples were analyzed within holding time.

Surrogates

Sample P8MW1GW4 and P2MW2GW4 reported high surrogate recovery for the halogenated surrogate TCFM in the initial analysis. Samples reporting high surrogate recoveries were not qualified. All other samples met all required halogenated and aromatic surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed to meet required precision criteria ($RSD < 20\%$, $\%D < 15$) during the initial and/or the continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P8MW1GW4	Methylene Chloride
PBER07	Toluene
P5MW1GW4	Toluene
P2MW2GW4	Toluene
P2MW4GW4	Toluene
PTB12	Toluene
TB	Toluene
P2MW3GW4	Toluene
PBER08	Toluene
P3MW1GW4	Toluene
PBER9	Toluene
P2MW9GW4	Toluene
P2MW3GW4	1,3-Dichlorobenzene
P3MW1GW4	1,3-Dichlorobenzene
P8MW1GW4	1,3-Dichlorobenzene
P5MW1GW4RE	1,3-Dichlorobenzene
P2MW4GW4	1,4-Dichlorobenzene
P2MW2GW4	1,2-Dichlorobenzene
P2MW4GW4	1,2-Dichlorobenzene
P2MW3GW4	1,2-Dichlorobenzene
PBER9	1,2-Dichlorobenzene

Matrix Spikes

Sample P2MW2GW4 was used for the matrix spike/matrix spike duplicate. 2-CEVE was not detected in the halogenated matrix spike or matrix spike duplicate. Spike recovery (SR) values met all accuracy criteria in both the halogenated and the aromatic MS/MSD. Relative percent difference (RPD) met all accuracy criteria in both the halogenated and the aromatic MS/MSD. Qualifiers were not added solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation:

Phelps Collins
Alpena, MI
Volatile Organic Data Validation 601/602
Sampling Dates: August 1993

Samples in SDG # 372A

PBER10	PTB113	PTB14	PBER12
PBER11			

Overview

Five water samples for SDG # 372A were validated for volatile organic compounds analyzed by 601/602 methodology.

Summary

All samples were successfully analyzed for target compounds. Four samples; PBER10, PBER11, PTB13, and PTB14 required second column confirmation for halogenated compounds organic compounds. Four samples, PBER11, PBER12, PTB13, and PTB14 required second column confirmation for aromatic organic compounds. Several samples contained detects for various target compounds below the Contract Required Quantitation limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

Due to an error at the laboratory the samples were analyzed using 601/602 methodology and not the required 8010/8020 methodology.

Minor Problems

Holding Times

All initial analysis were performed within the required holding time of 14 days for preserved samples. All confirmation analysis were performed 1 to 15 days out of holding times. Detects in the sample confirmed out of holding times were qualified with a "J" for estimated. Non-detects associated with compounds detected in the initial analysis were qualified "UJ".

Surrogates

All samples met required surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15\%$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
PBER10	Methylene Chloride
PBER11	Methylene Chloride
PBER12	Methylene Chloride
PTB13	Methylene Chloride
PTB14	Methylene Chloride
PBER11	Benzene
PBER12	Benzene
PTB13	Benzene
PTB14	Benzene
PBER10	Toluene
PBER11	Toluene
PBER12	Toluene
PTB13	Toluene
PTB14	Toluene
PBER10	1,4-Dichlorobenzene
PTB13	1,4-dichlorobenzene
PBER10	1,2-Dichlorobenzene
PTB13	1,2-Dichlorobenzene

Matrix Spike

Sample P2MW2GW4 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) failed to met accuracy criteria for two halogenated MS/MSD. All spike recoveries met accuracy criteria for the aromatic MS/MSD. All relative percent recoveries (RPD) met accuracy criteria for the halogenated MS/MSD. Three RPD's failed to meet accuracy criteria for the aromatic MS/MSD. Data was not qualified solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 373

P02B60002	P08B61213	P00B20001	P02B70002
P08B71213	P08B60002	P02B40304	P00B20203
P02B80506	P02B80002	P02B70506	P02B60506
P08B70002	P02B90406	P08B81012	P08B80102
P02B90304	P08B80910	P6D2	

Overview

Nineteen soil samples for SDG# 373 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Sixteen samples; P02B60002, P08B61213, P00B20001, P0870002, P08B60002, P02B40304, P00B20203, P0280506, P02B80002, P02B70506, P02B60506, P02B70002, P08B81012, P08B80102, P08B90304, and P6D2 required second column confirmation for halogenated volatile organics. Five samples; P08B61213, P08B60002, P08B80102, P02B90304, and P6D2 required second column confirmation for aromatic volatile organics. All samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

The initial halogenated and aromatic analysis for sample P02B40304 were performed 1 day out of holding time. The initial aromatic analysis for P02B90304 was performed 11 days out of holding time. All other initial analysis were performed within the required holding time of 14 days. All confirmation analysis were performed from 9 to 26 days out of the required holding time.

Surrogates

Samples P02B90406, P00B20203, P02B80506, P02B70506, P02B60506, P02B60002, and P6D2 failed to meet required surrogate recovery limits for the surrogate TCFM in either the initial and/or the confirmation halogenated analysis. Samples P08B70002, P08B81012, P08B80102, P08B61213, P02B70002, P08B60002, and P6D2 failed to meet required surrogate recovery limits for the surrogate BFB in either the initial and/or the confirmation halogenated analysis. Samples P08B80102, P08B61213, P08B60002, and P6D2 failed surrogate recovery limits for the surrogate BFB in either the initial and/or the confirmation aromatic analysis. Samples were not qualified for surrogates reporting high recoveries. Samples with detects associated with low surrogate recovery were qualified "J" for estimated, non-detects were qualified "UJ". All other samples met all required halogenated and aromatic surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P02B40304	Methylene Chloride
P02B80506	Methylene Chloride
P02B80002	Methylene Chloride
P02B70506	Methylene Chloride
P02B60506	Methylene Chloride
P08B61213	Methylene Chloride
P00B20001	Methylene Chloride
P08B70002	Methylene Chloride
P08B71213	Methylene Chloride
P02B70002	Methylene Chloride
P02B90406	Methylene Chloride
P08B81012	Methylene Chloride
P08B80102	Methylene Chloride
P08B80910	Methylene Chloride
P6D2	Methylene Chloride
P02B40304	Chloroform
P00B20203	Chloroform
P02B80506	Chloroform
P02B80002	Chloroform
P02B70506	Chloroform
P02B60506	Chloroform
P02B60002	Chloroform
P08B61213	Chloroform
P00B20001	Chloroform
P08B70002	Chloroform
P08B71213	Chloroform
P08B60002	Chloroform
P02B70002	Chloroform
P02B90406	Chloroform

SAMPLE	COMPOUND
P08B81012	Chloroform
P08B80102	Chloroform
P02B90304	Chloroform
P08B80910	Chloroform
P6D2	Chloroform
P00B20203	1,1,1-Trichloroethane
P02B80506	1,1,1-Trichloroethane
P02B0002	1,1,1-Trichloroethane
P02B70506	1,1,1-Trichloroethane
P00B20001	1,1,1-Trichloroethane
P08B71213	1,1,1-Trichloroethane
P08B60002	1,1,1-Trichloroethane
P02B70002	1,1,1-Trichloroethane
P08B80102	1,1,1-Trichloroethane
P02B90304	1,1,1-Trichloroethane
P02B40304	Toluene
P02B80506	Toluene
P02B80002	Toluene
P02B70506	Toluene
P02B60506	Toluene
P02B60002	Toluene
P00B20001	Toluene
P08B70002	Toluene
P08B71213	Toluene
P02B70002	Toluene
P00B20203	1,4-Dichlorobenzene
P02B80506	1,4-Dichlorobenzene
P02B60506	1,4-Dichlorobenzene
P02B60002	1,4-Dichlorobenzene

SAMPLE	COMPOUND
P6D2	1,2-Dichlorobenzene

Matrix Spikes

Sample P02B40304 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) values met all accuracy criteria for both the halogenated and the aromatic MS/MSD. Relative percent difference (RPD) values met all accuracy criteria for both the halogenated and aromatic MS/MSD.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/820
Sampling Dates: August 1993

Samples in SDG # 374

P6D3	P6D1	P6D4	P02B40002
P02B20405	P02B50405	P02B30405	P02B20002
P02B30507	P02B50002	P02B30002	P02B40405
P1B120002	P1B20002	P1B110002	P1B110304
P1B100002	P1B100304	P1B130304	P1B130002

Overview

Twenty soil samples for SDG # 374 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Twelve samples; P6D3, P6D4, P1B12002, P1B120002, P1B110304, P1B100002, P1B100304, P02B20002, P02B50002, P1B130304 and P1B130002 required second column confirmation for halogenated organic compounds. Five samples; P6D3, P6D1, P6D4, P02B20002, and P02B50002 required second column confirmation for aromatic organic compounds. Several samples contained detects for various target compounds below the Contract Required Quantitation limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All initial analysis were performed within the required holding time of 14 days. The halogenated confirmation analysis for samples; P6D3, P6D4, P02B20002, and P02B0002 was performed 10 to 14 days out of holding time. The aromatic confirmation for samples; P6D3, P6D1, P6D4, P02B20002, and P02B50002 requiring confirmation was performed 10 to 17 days out of holding time. Detects in the samples confirmed out of holding times were qualified with a "J" for estimated. Non-detects associated with compounds detected in the initial analysis were qualified "UJ".

Surrogates

Samples P1B20002, P1B110002, P1B100304, P02B20002, P6D3, and P6D4 failed to meet surrogate recovery limits for TCFM in either the initial and/or the confirmation halogenated analysis for the surrogate TCFM. Samples P1B10002, P1B100304, P02B20002, P02B50002, P6D3, and P6D4 failed to meet surrogate recovery limits for the surrogate BFB in either the initial and/or the confirmation halogenated analysis. Samples P02B20002, P02B50002, P6D3, and P6D4 failed to meet surrogate recovery limits for the surrogate BFB in either the initial and/or the confirmation aromatic analysis. Samples which reported high surrogate recoveries were not qualified. Associated detects in samples which reported low surrogate recoveries were qualified "J" for estimated, non-detects were qualified "UJ". All other samples met all required surrogate recovery limits.

Internal Standards

TCFM was outside the retention window in samples P1B130304, P1B13002, P1B12002, P1B11002, and P1B10304 no qualifiers were added because TCFM is not a target analyte and the samples were not significantly outside the retention times. All other internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15\%$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P6D3	Methylene Chloride
P6D1	Methylene Chloride
P6D4	Methylene Chloride
P02B40002	Methylene Chloride
P02B20405	Methylene Chloride
P02B50405	Methylene Chloride
P1B110304	Methylene Chloride
P02B30405	Methylene Chloride
P02B20002	Methylene Chloride
P02B50002	Methylene Chloride
P02B30002	Methylene Chloride
P02B40405	Methylene Chloride
P1B130002	Methylene Chloride
P6D3	Chloroform
P6D1	Chloroform
P6D4	Chloroform
P02B40002	Chloroform
P02B20405	Chloroform
P02B50405	Chloroform
P1B120002	Chloroform
P1B200022	Chloroform
P1B110002	Chloroform
P1B110304	Chloroform
P1B100002	Chloroform
P1B100304	Chloroform
P02B30405	Chloroform
P02B20002	Chloroform
P02B30507	Chloroform
P02B50002	Chloroform

SAMPLE	COMPOUND
P02B30002	Chloroform
P02B40405	Chloroform
P1B130304	Chloroform
P1B130002	Chloroform
P6D1	1,1,1-Trichloroethane
P6D4	1,1,1-Trichloroethane
P02B20405	1,1,1-Trichloroethane
P02B50405	1,1,1-Trichloroethane
P1B120002	1,1,1-Trichloroethane
P1B200002	1,1,1-Trichloroethane
P1B110002	1,1,1-Trichloroethane
P1B100304	1,1,1-Trichloroethane
P02B30405	1,1,1-Trichloroethane
P02B20002	1,1,1-Trichloroethane
P02B30507	1,1,1-Trichloroethane
P02B50002	1,1,1-Trichloroethane
P1B130304	1,1,1-Trichloroethane
P1B120002	Toluene
P1B200002	Toluene
P1B110002	Toluene
P1B120002	Chlorobenzene
P1B120002	o-Xylene
P1B200002	o-Xylene
P1B110002	o-Xylene
P1B120002	Styrene
P1B110002	Styrene
P1B120002	1,3-Dichlorobenzene
P1B110002	1,4-Dichlorobenzene
P1B120002	1,2-Dichlorobenzene

SAMPLE	COMPOUND
P1B110002	1,2Dichlorobenzene
P6D3	Chloroform
P02B50405	1,3-Dichlorobenzene

Matrix Spike

Sample P6D3 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) failed to meet accuracy criteria for 3 halogenated and 1 aromatic spike compound for the MS/MSD. All of the relative percent recovery (RPD) met accuracy criteria for the halogenated MS/MSD. Four of the RPD's failed to meet accuracy criteria for the aromatic MS/MSD. Data was not qualified solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 377

P01B90304	P01B90002	P01B70304	P01B70002
P01B80002	P01B60304	P01B60002	P01B50002
P01B50304	P01B40001	P01B40203	P01B80304
P3B110002	P3B111012	P3B120002	P3B121012
P3B130002	P3B131012	P3B130204	P3B200002

Overview

Twenty soil samples for SDG# 377 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Eighteen samples; P01B90304, P01B90002, P01B70304, P01B70002, P01B80002, P01B80304, P3B110002, P3B111012, P3B120002, P3B121012, P01B60002, P01B50002, P01B50304, P01B40001, P01B40203, P01B60304, P3B130204, and P3B200002 required second column confirmation for halogenated volatile organics. No sample required second column confirmation for aromatic volatile organics. Several samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All initial and confirmation analysis were performed within the required holding time of 14 days.

Surrogates

Samples P01B90002, P01B70002, P01B50002, P01B50304, P01B60304, P3B111012, P3B120002, P3B121012, and P3B130204 failed to meet the halogenated surrogate recovery limits for TCFM and/or BFB in either the initial or conformation analysis. Samples P01B70002 and P3B120002 failed to meet aromatic surrogate recovery limits for BFB. Samples which reported high surrogate recoveries were not qualified. Detects in samples which reported low surrogate recoveries were qualified "J" for estimated, non-detects were qualified "UJ". All other samples met all required surrogate recovery limits.

Internal Standards

TCFM was reported outside of the required retention window for sample P08B60304. No qualifiers were added since TCFM is not a target analyte and the retention window was not grossly exceeded. All other internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P01B90304	Methylene Chloride
P01B90002	Methylene Chloride
P01B70304	Methylene Chloride
P01B80002	Methylene Chloride
P01B80304	Methylene Chloride
P01B60002	Methylene Chloride
P01B50002	Methylene Chloride
P01B50304	Methylene Chloride
P01B40001	Methylene Chloride
P01B40203	Methylene Chloride
P03B11002	Methylene Chloride
P3B111012	Methylene Chloride
P3B120002	Methylene Chloride
P3B121012	Methylene Chloride
P3B130002	Methylene Chloride
P3B131012	Methylene Chloride
P3B130204	Methylene Chloride
P3B200002	Methylene Chloride
P01B90304	Chloroform
P01B90002	Chloroform
P01B70304	Chloroform
P01B80002	Chloroform
P01B80304	Chloroform
P01B60002	Chloroform
P01B50002	Chloroform
P01B50304	Chloroform
P01B40001	Chloroform
P01B40203	Chloroform

SAMPLE	COMPOUND
P01B60304	Chloroform
P3B110002	Chloroform
P3B111012	Chloroform
P3B120002	Chloroform
P3B121012	Chloroform
P3B131002	Chloroform
P3B131012	Chloroform
P3B130204	Chloroform
P3B200002	Chloroform
P01B90304	1,1,1-Trichloroethane
P01B70304	1,1,1-Trichloroethane
P01B70002	1,1,1-Trichloroethane
P01B80002	1,1,1-Trichloroethane
P01B80304	1,1,1-Trichloroethane
P01B60002	1,1,1-Trichloroethane
P01B50304	1,1,1-Trichloroethane
P01B40001	1,1,1-Trichloroethane
P01B40203	1,1,1-Trichloroethane
P01B60304	1,1,1-Trichloroethane
P3B121012	1,1,1-Trichloroethane
P3B130002	1,1,1-Trichloroethane
P3B131012	1,1,1-Trichloroethane
P3B131012	Trichloroethene
P3B131012	Trichloroethene
P3B131012	Trichloroethene
P3B131012	Trichloroethene
P3B131012	Trichloroethene
P01B90304	Toluene

SAMPLE	COMPOUND
P01B90002	Toluene
P01B70304	Toluene
P01B80002	Toluene
P01B60002	Toluene
P01B50002	Toluene
P01B40203	Toluene
P3B110002	Toluene
P3B130002	Toluene
P01B90304	o-Xylene
P01B90002	o-Xylene
P01B70304	o-Xylene
P01B80002	o-Xylene
P01B60002	o-Xylene
P3B130002	Styrene
P01B80002	1,3-Dichlorobenzene
P01B80304	1,3-Dichlorobenzene
P01B50002	1,3-Dichlorobenzene
P01B50304	1,3-Dichlorobenzene
P01B40203	1,3-Dichlorobenzene
P01B50304	1,4-Dichlorobenzene
P3B130002	1,4-Dichlorobenzene

Matrix Spikes

Sample P01B90304 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) met all accuracy criteria in both the halogenated and aromatic MS/MSD. Relative percent difference (RPD) values failed on 2 of the 35 spiking compounds for the halogenated MS/MSD and 1 of the 12 spiking compounds for the aromatic MS/MSD. Qualifiers were not added solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 379

PTB	PFB4	PFB05	PTB16
P05MW3GW4	PBER13	P03MW2GW4	P3MW3GW4
P03MW4GW4	P05MW4GW4	P05MW2GW4	PTB17
PER15	P6MW3GW4	P3MW5GW4	PER14
PBER-16	P3MW9GW4	PTB18	P9MW1GW4

Overview

Twenty water samples for SDG# 379 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Five samples; PFB4, P6MW3GW4, P03MW2GW4, PTB17, and P9MW1GW4 required second column confirmation for halogenated volatile organics. Sample PFB05 required second column confirmation for aromatic volatile organics. All samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

The initial halogenated analysis for sample PFB4 was performed 4 days out of holding times. Two halogenated confirmation for samples, P03MW2GW4 and PTB17 and the aromatic confirmation for PFB05 was performed out of the required holding time by 1 to 3 days. All other samples were analyzed within holding time of 14 days for preserved samples. Detects in samples initially analyzed out of holding times were qualified "J" for estimated. Non-detects were not qualified. Detects in samples confirmed out of holding times were qualified "J" for estimated. Non-detects corresponding to detects in the initial analysis were qualified "UJ".

Surrogates

Sample PFB4 reported low halogenated surrogate recovery for TCFM in the initial analysis. Sample P03MW2GW4 reported low halogenated surrogate recovery for BFB in the initial analysis. Detects for target compounds in samples relating to the surrogates were qualified "J" for estimated, non-detects were qualified "UJ". All other samples met all required halogenated and aromatic surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

All compounds met required precision criteria ($RSD < 20\%$) for initial calibration. Several compounds failed precision criteria ($\%D < 15$) during continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
PFB4	Methylene Chloride
P03MW2GW4	Methylene Chloride
P03MW3GW4	Methylene Chloride
P03MW4GW4	Methylene Chloride
P05MW4GW4	Methylene Chloride
PP05MW2GW4	Methylene Chloride
PTB17	Methylene Chloride
PER15	Methylene Chloride
P6MW3GW4	Methylene Chloride
P3MW5GW4	Methylene Chloride
PER14	Methylene Chloride
PBER-16	Methylene Chloride
P3MW9GW4	Methylene Chloride
PTB18	Methylene Chloride
P9MW1GW4	Methylene Chloride
PTB17	Chloroform
P3MW5GW4	1,1,1-Trichloroethane
PER14	1,1,1-Trichloroethane
PBER-16	1,1,1-Trichloroethane
P3MW9GW4	1,1,1-Trichloroethane
PFB05	Benzene
PTB	Toluene
PFB4	Toluene
PFB05	Toluene
PTB16	Toluene
P05MW3GW4	Toluene
PBER13	Toluene
P03MW2GW4	Toluene
P03MW3GW4	Toluene

SAMPLE	COMPOUND
P03MW4GW4	Toluene
P05MW4GW4	Toluene
P05MW2GW4	Toluene
PTB17	Toluene
PER15	Toluene
P05MW4GW4	Ethylbenzene
P05MW2GW4	Ethylbenzene
PER15	Ethylbenzene
PTB	1,4-Dichlorobenzene
PBER13	1,4-Dichlorobenzene
P03MW2GW4	1,2-Dichlorobenzene
P03MW3GW4	1,2-Dichlorobenzene
P03MW4GW4	1,2-Dichlorobenzene
P05MW4GW4	1,2-Dichlorobenzene
P05MW2GW4	1,2-Dichlorobenzene
PTB17	1,2-Dichlorobenzene
PER15	1,2-Dichlorobenzene

Matrix Spikes

Sample P3MW5GW4 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) values failed for two spiking compounds in the halogenated MS/MSD. Spike recovery met all accuracy criteria in the aromatic MS/MSD. Relative percent difference (RPD) failed on 1 compound in the halogenated matrix spike/matrix spike duplicate. RPD values met all accuracy criteria for the aromatic MS/MSD. Qualifiers were not added solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 381

P3B110406

P3B120406

P3B120810

P3B130406

Overview

Four soil samples for SDG# 381 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Sample P3B120810 required second column confirmation for halogenated volatile organics. No sample required second column confirmation for aromatic volatile organics. All samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All initial and confirmation analysis were performed within the required holding time of 14 days.

Surrogates

Sample P3B120810 reported low halogenated surrogate recovery for BFB in the confirmation analysis. Detects for target compounds in sample P3B120810 relating to the surrogate BFB were qualified "J" for estimated, non-detects were qualified "UJ". All other samples met required halogenated and aromatic surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15\%$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P3B110406	Methylene Chloride
P3B120406	Methylene Chloride
P3B120810	Methylene Chloride
P3B130406	Methylene Chloride
P3B110406	Chloroform
P3B120406	Chloroform
P3B120810	Chloroform
P3B130406	Chloroform
P3B110406	1,1,1-Trichloroethane
P3B120406	1,1,1-Trichloroethane
P3B120810	1,1,1-Trichloroethane
P3B130406	Toluene
P3B110406	Toluene
P3B120406	Toluene
P3B120810	Toluene
P3B130406	Toluene
P3B110406	o-Xylene
P3B120406	o-Xylene
P3B130810	o-Xylene
P3B130406	o-Xylene
P3B120810	1,4-Dichlorobenzene
P3B130406	1,4-Dichlorobenzene
PCB110406	1,2-Dichlorobenzene
P3B120810	1,2-Dichlorobenzene

Matrix Spikes

Sample P3B110406 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) values failed on methylene chloride in both the matrix spike and duplicate for the halogenated MS/MSD. Spike recovery met all accuracy criteria in the aromatic MS/MSD. Relative percent difference (RPD) values met all accuracy criteria for both the halogenated and aromatic MS/MSD. Qualifiers were not added solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: September 1993

Samples in SDG # 383

PTB22	P7MW1GW4	P1MW2GW4	P2MW7GW4
P2MW6GW4	PTB23	P3MW6GW4	P1MW3GW4
PER18	P1MW4GW4	PTB24	PTB25
P5MW9GW4	P5MW8GW4	P3MW7GW4	PER19
P1M12GW4	PER20	P7MW2GW4	P1M13GW4

Overview

Twenty water samples for SDG# 383 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Five samples; PTB22, P2MW7GW4, P5MW8GW4, P3MW7GW4, and PER19 required second column confirmation for halogenated volatile organics. Three samples; P3MW6GW4, PER18, and P7MW2GW4 required second column confirmation for aromatic volatile organics. Several samples contained detects for various target compounds below the Contract Required Quantitation Limits (CROL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All initial and confirmation analysis were performed within the required holding time of 14 days for preserved samples.

Surrogates

All samples met required halogenated and aromatic surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P5MW9GW4	Methylene Chloride
P5MW8GW4	Methylene Chloride
P3MW7GW4	Methylene Chloride
PER19	Methylene Chloride
P1M12GW4	Methylene Chloride
PER20	Methylene Chloride
PER18	Methylene Chloride
P1MW4GW4	Methylene Chloride
PTB24	Methylene Chloride
PTB25	Methylene Chloride
PTB22	Methylene Chloride
P7MW1GW4	Methylene Chloride
P2MW7GW4	Methylene Chloride
P2MW2GW4	Methylene Chloride
P1M13GW4	Methylene Chloride
PER19	chloroform
P7MW1GW4	1,1,1-Trichloroethane
P5MW9GW4	Toluene
P5MW8GW4	Toluene
P3MW7GW4	Toluene
PER19	Toluene
P1M12GW4	Toluene
PER20	Toluene
PER18	Toluene
P1MW1GW4	Toluene
PTB24	Toluene
PTB25	Toluene
P7MW2GW4	Toluene
P1MW13GW4	Toluene

SAMPLE	COMPOUND
P5MW8GW4	1,3-Dichlorobenzene
PER19	1,3-Dichlorobenzene
PER20	1,3-Dichlorobenzene
P3MW6GW4	1,3-Dichlorobenzene
P1MW3GW4	1,3-Dichlorobenzene
PER18	1,3-Dichlorobenzene
P1MW4GW4	1,3-Dichlorobenzene
PTB25	1,3-Dichlorobenzene
PTB22	1,3-Dichlorobenzene
P7MW1GW4	1,3-Dichlorobenzene
P1MW2GW4	1,3-Dichlorobenzene
P2MW6GW4	1,3-Dichlorobenzene
PTB23	1,3-Dichlorobenzene
P7MW2GW4	1,3-Dichlorobenzene
P1MW13GW4	1,3-Dichlorobenzene
P5MW8GW4	1,4-Dichlorobenzene
PER19	1,4-Dichlorobenzene
P1M12GW4	1,4-Dichlorobenzene
PER20	1,4-Dichlorobenzene
P1MW3GW4	1,4-Dichlorobenzene
P1MW4GW4	1,4-Dichlorobenzene
PTB24	1,4-Dichlorobenzene
PTB25	1,4-Dichlorobenzene
PTB22	1,4-Dichlorobenzene
P1MW2GW4	1,4-Dichlorobenzene
P2MW7GW4	1,4-Dichlorobenzene
P2MW6GW4	1,4-Dichlorobenzene
PTB23	1,4-Dichlorobenzene
P1MW13GW4	1,4-Dichlorobenzene

SAMPLE	COMPOUND
P5MW9GW4	1,2-Dichlorobenzene
P5MW8GW4	1,2-Dichlorobenzene
P3MW7GW4	1,2-Dichlorobenzene
P3MW6GW4	1,2-Dichlorobenzene
P1MW3GW4	1,2-Dichlorobenzene
PER18	1,2-Dichlorobenzene
P1MW4GW4	1,2-Dichlorobenzene
PTB24	1,2-Dichlorobenzene
PTB22	1,2-Dichlorobenzene
P1MW2GW4	1,2-Dichlorobenzene
P2MW7GW4	1,2-Dichlorobenzene
P2MW6GW4	1,2-Dichlorobenzene
PTB23	1,2-Dichlorobenzene

Matrix Spikes

Sample P2MW6GW4 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) met all accuracy criteria for both the halogenated MS/MSD and aromatic MS/MSD. Relative percent difference (RPD) values met all accuracy criteria for both the halogenated and aromatic MS/MSD.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: August 1993

Samples in SDG # 382

P9MW2GW4	P9MW3GW4	P9MW5GW4	PTB19
P8MW2GW4	P6MW5GW4	P8MW9GW4	P6MW4GW4
P5MW6GW4	PER17	P8MW3GW4	P8MW4GW4
P6MW6GW4	P5MW7GW4	P5MW5GW4	PTB20
P6MW8GW4	P6MW9GW4	P9MW4GW4	PFB07

Overview

Twenty water samples for SDG# 382 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Five samples; P8MW2GW4, P6MW5GW4, P8MW3GW4, P6MW6GW4, and P9MW4GW4 required second column confirmation for halogenated volatile organics. Two samples P6MW5GW4 and P6MW8GW4 required second column confirmation for aromatic volatile organics. Several samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

All initial analysis were performed within the required holding time of 14 days for preserved samples. Two samples P8MW2GW4 and P6MW5GW4 requiring second column confirmation, for halogenated target compounds, were confirmed 4 and 5 days out of holding times respectively. Sample P6MW5GW4 requiring second column analysis for aromatic target compounds was confirmed 5 days out of holding time. All target analytes that were detected out of holding time were qualified "J" for estimated. Non-detects in samples confirmed out of holding times that corresponded to a detect in the initial analysis was qualified "UJ".

Surrogates

Sample PFB07 reported high surrogate recovery for BFB in the aromatic surrogate recovery. Qualifiers were not added for high surrogate recovery. All other samples met all surrogate recovery limits for both halogenated and aromatic surrogates.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P9MW3GW4	Methylene Chloride
P9MW5GW4	Methylene Chloride
PTB19	Methylene Chloride
P8MW2GW4	Methylene Chloride
P6MW5GW4	Methylene Chloride
P8MW9GW4	Methylene Chloride
P6MW4GW4	Methylene Chloride
PER17	Methylene Chloride
P8MW3GW4	Methylene Chloride
P8MW4GW4	Methylene Chloride
P6MW6GW4	Methylene Chloride
P5MW7GW4	Methylene Chloride
P6MW8GW4	Methylene Chloride
P6MW9GW4	Methylene Chloride
P9MW4GW4	Methylene Chloride
PFB07	Methylene Chloride
PER17	Chloroform
P8MW3GW4	Chloroform
P8MW4GW4	Chloroform
P5MW5GW4	Chloroform
P9MW3GW4	1,1,1-Trichloroethane
PER17	1,1,1-Trichloroethane
P5MW5GW4	1,1,1-Trichloroethane
P9MW5GW4	Toluene
PTB19	Toluene
P8MW2GW4	Toluene
P8MW9GW4	Toluene
P6MW8GW4	1,3-Dichlorobenzene
P6MW9GW4	1,3-Dichlorobenzene

SAMPLE	COMPOUND
P9MW4GW4	1,3-Dichlorobenzene
PFB07	1,3-Dichlorobenzene
P9MW5GW4	1,4-Dichlorobenzene
PTB19	1,4-Dichlorobenzene
P8MW2GW4	1,4-Dichlorobenzene
P6MW8GW4	1,4-Dichlorobenzene
P6MW9GW4	1,4-Dichlorobenzene
PFB07	1,4-Dichlorobenzene
P6MW5GW4	1,2-Dichlorobenzene
P6MW8GW4	1,2-Dichlorobenzene
P6MW9GW4	1,2-Dichlorobenzene
PFB07	1,2-Dichlorobenzene

Matrix Spikes

Sample P9MW2GW4 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) met all accuracy criteria for both the halogenated MS/MSD and aromatic MS/MSD. Relative percent difference (RPD) values met all accuracy criteria for both the halogenated and aromatic MS/MSD.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/820
Sampling Dates: September 1993

Samples in SDG # 385

P2B100810	P2B100001	P2B100304	P1D002
P1D003	P1D004	P1D001	P1D005

Overview

Eight soil samples for SDG # 385 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Six samples; P2B100810, P2B100001, P2B100304, P1D002, P1D003, and P1D001 required second column confirmation for halogenated compounds organic compounds. Sample P2B100001 required second column confirmation for aromatic organic compounds. Several samples contained detects for various target compounds below the Contract Required Quantitation limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All initial and confirmation analysis were performed within the required holding time of 14 days.

Surrogates

Samples P1D003 and P1D001 reported a high surrogate recovery for the surrogate TCFM in the halogenated confirmation analysis. Samples P2B100001 and P2B100304 reported low surrogate recovery for the surrogate BFB in the initial and/or confirmation halogenated analysis. Sample P2B100001 reported low surrogate recovery for BFB in the initial aromatic analysis. There were no associated detects in the samples, associated non-detects were qualified "UJ". All other samples met all required surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15\%$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P2B100810	Methylene Chloride
P2B100001	Methylene Chloride
P2B100304	Methylene Chloride
P1D002	Methylene Chloride
P1D003	Methylene Chloride
P1D004	Methylene Chloride
P1D001	Methylene Chloride
P1D005	Methylene Chloride
P2B100810	Chloroform
P2B100001	Chloroform
P2B100304	Chloroform
P1D002	Chloroform
P1D003	Chloroform
P1D003	Chloroform
P1D001	Chloroform
P1D005	Chloroform
P2B100810	Toluene
P1D005	Toluene
P2B100304	Toluene
P1D002	Toluene
P1D003	Toluene
P1D004	Toluene
P1D001	Toluene
P1D005	Toluene
P2B100810	o-Xylene
P1D003	o-Xylene
P1D004	o-Xylene
P1D001	o-Xylene
P1D005	o-Xylene

SAMPLE	COMPOUND
P2B100810	1,4-Dichlorobenzene
P1D001	1,4-Dichlorobenzene
P1D005	1,4-Dichlorobenzene

Matrix Spike

Sample P2B100810 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) met all accuracy criteria for both the halogenated and aromatic MS/MSD. Two of the relative percent recoveries (RPD) failed to meet accuracy criteria for the halogenated MS/MSD. One of the RPD's failed to meet accuracy criteria for the aromatic MS/MSD. Data was not qualified solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/8020
Sampling Dates: September 1993

Samples in SDG # 386

P8MW5GW4
P1M14GW4
PTB28

PTB26
P7MW3GW4
P1MW6GW4

P1M11GW4
P9MW6GW4
PER21

P1MW1GW4
PTB27
P6M10GW4

Overview

Twelve water samples for SDG# 386 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Six samples; P1M14GW4, P7MW3GW4, P9MW6GW4, PTB27, PTB28 and PER21 required second column confirmation for halogenated volatile organics. Five samples; P1M11GW4, P1MW1GW4, P1M14GW4, P7MW3GW4, and PTB27 required second column confirmation for aromatic volatile organics. Sample P9MW6GW4 required dilution for volatile aromatic analysis. Several samples contained detects for various target compounds below the Contract Required Quantitation Limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

None.

Minor Problems

Holding Times

The initial aromatic analysis for PTB28 was performed 2 days out of the required holding time of 14 days for preserved samples. The halogenated confirmation analysis for samples P9MW6GW4 and PTB28 were performed 8 days and 2 days, respectively, out of holding time. The dilution of sample P9MW6GW4, for aromatic analysis, was performed 12 days out of holding time. All other samples were analyzed within holding time. Detects in samples initially analyzed out of holding times were qualified "J" for estimated. Non-detects were not qualified. Detects in confirmation analysis performed out of holding times were qualified "J" for estimated. Non-detects corresponding to detects in the initial analysis were qualified "UJ".

Surrogates

Sample P1MW6GW4 reported high surrogate recovery for the surrogate BFB in the halogenated confirmation analysis. Samples reporting high surrogate recoveries were not qualified. All other samples met all required halogenated and aromatic surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

All compounds met the required precision criteria ($RSD < 20\%$) during the initial calibrations. Several compounds failed to meet required precision criteria ($\%D < 15$) during the continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P8MW5GW4	Methylene Chloride
PTB26	Methylene Chloride
P1M11GW4	Methylene Chloride
P1MW1GW4	Methylene Chloride
P1M14GW4	Methylene Chloride
P7MW3GW4	Methylene Chloride
P9MW6GW4	Methylene Chloride
PTB27	Methylene Chloride
PTB28	Methylene Chloride
P1MW6GW4	Methylene Chloride
PER21	Methylene Chloride
P6M10GW4	Methylene Chloride
P8MW5GW4	Toluene
PTB26	Toluene
PTB27	Toluene
P9MW6GW4	1,3-Dichlorobenzene
PTB28	1,3-Dichlorobenzene
PTB26	1,4-Dichlorobenzene
PTB27	1,4-Dichlorobenzene
P8MW5GW4	1,2-Dichlorobenzene
PTB26	1,2-Dichlorobenzene
P1M14GW4	Ethylbenzene

Matrix Spikes

Sample P1M14GW4 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) failed to meet accuracy criteria for 5 spiking compounds for the halogenated MS/MSD. SR values met all accuracy criteria in the aromatic MS/MSD. Relative percent difference (RPD) met all accuracy criteria in both the halogenated and the aromatic MS/MSD. Samples were not qualified solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Volatile Organic Data Validation SW 846 8010/820
Sampling Dates: August 1993

Samples in SDG # 387

P02GMW5 P4MW8GW4 P4MW1GW4

Overview

Three water samples for SDG # 387 were validated for volatile organic compounds analyzed by SW-846 8010/8020 methodology.

Summary

All samples were successfully analyzed for target compounds. Samples P4MW8GW4 and P4MW1GW4 required second column confirmation for halogenated volatile organic compounds. No sample required second column confirmation for aromatic organic compounds. Several of the samples contained detects for various target compounds below the Contract Required Quantitation limits (CRQL). QA/QC level was HAZWRAP level C for all samples.

Major Problems

All holding times were exceeded by 33 days. All data was qualified "R"

Minor Problems

Holding Times

All initial and confirmation analysis were performed outside of the required holding time of 14 days for preserved samples.

Surrogates

All samples met all required surrogate recovery limits.

Internal Standards

All internal standards met QC limits for area counts and retention times.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 20\%$, $\%D < 15\%$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. Non-detects were not qualified.

Blanks

Sample detects for the common laboratory contaminants, methylene chloride, acetone, toluene, and 2-butanone, were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks. Sample detects for other compounds were qualified "B", if the detected concentration was less than 5 times the concentration detected in any of the associated blanks. Detects were not qualified if the concentration was greater than 10 times the concentration of the common laboratory contaminants or 5 times the concentration of other contaminants detected in all of the associated blanks. Non-detects were not qualified. The following sample detects were qualified "B" because of contamination in associated equipment rinseate, method blank, field blank and/or trip blank.

SAMPLE	COMPOUND
P02GMW5	Methylene Chloride
P4MW8GW4	Methylene Chloride
P4MW1GW4	Methylene Chloride
P4MW8GW4	Benzene
P4MW8GW4	Toluene
P4MW1GW4	1,2-Dichlorobenzene

Matrix Spike

Sample P4MW1GW4 was used for the matrix spike/matrix spike duplicate. Spike recovery (SR) failed to meet accuracy criteria for two spiking compounds in the halogenated MS/MSD. All spike recovery criteria was met for the aromatic MS/MSD. One relative percent recoveries (RPD) failed to meet accuracy criteria for the halogenated MS/MSD. All RPD's met accuracy criteria for the aromatic MS/MSD. Data was not qualified solely on matrix spike/matrix spike duplicate data.

No other problems were noted during the data validation.

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Semi-Volatile Organic Compound Data Validation-CLP

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Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date September 1993

Samples in SDG # 1065

P5MW5GW4
P6MW5GW4
P8MW4GW4

P5MW6GW4
P6MW6GW4
P8MW9GW4

P5MW7GW4
P8MW2GW4
PER17

P6MW4GW4
P8MW3GW4

Overview

Eleven water samples for SDG# 1065 were validated for semi-volatile organic compounds analyzed using LCBNA 10/92 methodology.

Summary

All samples were successfully analyzed for target compounds. No sample contained target compounds above the Contract Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

4-Chloroaniline failed precision criteria, RSD <30%, during initial calibration. Several compounds failed precision criteria, %D <25%, during continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

The associated method blank contained bis(2-Ethylhexyl)phthalate. No target analytes were detected in the associated field blanks or equipment rinseates. Sample detects for the common phthalate contaminant were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminant detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

All surrogates met recovery criteria.

Laboratory Control Sample

The laboratory control sample met all recovery criteria.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date September 1993

Samples in SDG # 1101

P1D001
P1D005

P1D002
P2B100001

P1D003
P2B100304

P1D004
P2B100810

Overview

Eight soil samples for SDG# 1101 were validated for semi-volatile organic compounds analyzed using CLP methodology.

Summary

All samples were successfully analyzed for target compounds. No sample contained target compounds above the Contract Required Quantitation Limit (CRQL). No sample contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

No compounds failed precision criteria, RSD <30%, during initial calibration. Several compounds failed precision criteria, %D <25%, during continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

No target compounds were detected in the associated method blanks. Phenol and di-n-butyl phthalate were detected in one or more of the associated field blanks and or equipment rinseates. Non-detects were not qualified.

Surrogates

All surrogates met recovery criteria.

Matrix Spike/Matrix Spike Duplicate

Sample P2B1003004 was used for the matrix spike/matrix spike duplicate. One of the twenty-two spike compounds was out of control limits for spike recovery. Eight of the eleven compounds were outside control limits for ,RPD, relative percent difference. The samples were not qualified based on matrix spike/matrix spike duplicate data.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Date Validation CLP
Sampling Date September 1993

Samples in SDG # 1146

P1M11GW4	P1M12GW4	P1M13GW4	P1M14GW4
P1M6GW4	P1MW1GW4	P2MW5GW4	P6M10GW4
P7MW2GW4	P7MW3GW4	P8MW5GW4	P9MW5GW4
P9MW6GW4	PER20	PER21	

Overview

Fifteen water samples for SDG# 1146 were validated for semi-volatile organic compounds analyzed using LCBNA 10/92 methodology.

Summary

All samples were successfully analyzed for target compounds. Two samples; P1M6GW4 and P9MW6GW4, contained target compounds above the Contact Required Quantitation Limit (CRQL). Several samples contained various target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 30\%$, $\%D < 25\%$) during initial and/or continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

Bis(2-Ethylhexyl) phthalate was detected in all the associated method blanks. Phenol and Di-n-butylphthalate was also detected in one of the method blanks. Phenol, di-ethylphthalate, and bis(2-Ethylhexyl)phthalate were detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

Surrogate recovery criteria was met in all samples.

Laboratory Control Sample

The laboratory control sample met all accuracy criteria.

Internal Standards

All internal standards were within QC limits.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date August 1993

Samples in SDG # 161

P00B10001	P00B10203	P00B10910	P04D011
P04D012	P04D13	P04D014	P04D015
P04D016	P04D018	P04D115	P08B20102
P08B20203	P08B20910	P08B30102	P08B30911
P08B40002	P08B41214		

Overview

Eighteen soil samples for SDG# 161 were validated for semi-volatile organic compounds analyzed using CLP methodology.

Summary

All samples were successfully analyzed for target compounds. No sample contained target compounds above the Contact Required Quantitation Limit (CRQL). No sample contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

No compound failed precision criteria, $RSD < 30\%$, during initial calibration. Several compounds failed precision criteria, $\%D < 25\%$, during continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

No target compounds were detected in the associated method blanks. Di-n-butyl-phthalate, bis-(2-Ethylhexyl)phthalate, phenol, and Diethylphthalate were detected in the associated field blanks and/or equipment rinseates. Non-detects were not qualified.

Surrogates

One surrogate, 2-fluorobiphenyl, failed to meet recovery criteria for P08B20910. Since only one surrogate was out of control limits no qualifiers were added.

Matrix Spike/Matrix Spike Duplicate

Sample P04D015 was used for the matrix spike/matrix spike duplicate. Three of the twenty-two spike compounds were out of control limits for spike recovery. One of the eleven compounds was outside control limits for RPD, relative percent difference. The samples were not qualified based on matrix spike/matrix spike duplicate data.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date July 1993

Samples in SDG # 2

P04W001	P04W002	P04W003	P04W004
P04W005	P04W006	P04W007	P04W008
P04W106	PB-ER1	PB-ER3	PBER4
PFB2			

Overview

Thirteen water samples for SDG# 2 were validated for semi-volatile organic compounds analyzed using LCBNA 10/92 methodology.

Summary

All samples were successfully analyzed for target compounds. Three samples, P04W001, PB-ER1, and PB-ER3 contained bis(2-Ethylhexyl)phthalate above the Contact Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

Sample PB-ER1 was extracted one day out of required holding time and analyzed within holding required holding time. Non-detects, in samples analyzed out of holding times, were qualified "UJ" and detects were qualified "J" for estimated. All other samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 30\%$, $\%D < 25\%$) during initial and continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

Two associated method blanks contained bis(2-Ethylhexyl)phthalate. No contaminants were detected in the associated field blank or equipment rinseate. Detects for the common phthalate contaminants were qualified "B", if the concentration detected was less than 10 times the concentration detected in the associated blanks or equipment rinseates. Detects were not qualified if the sample concentration was greater than 10x the concentration found in the associated blanks or equipment rinseate. Non-detects were not qualified.

Surrogates

All surrogates met recovery criteria.

Laboratory Control Sample

4-Chloroaniline exceeded quality control limits in the laboratory control sample. Data was not qualified based on the laboratory control sample.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date August 1993

Samples in SDG # 209

P00GPW1
P02GMW9
P06GMW1
P3MW1GW4
PBER08

P00GPW2
P04GMW2
P06GMW2
P5MW3GW4
PBER9

P00GPW3
P04GMW3
P2MW3GW4
P8MW1GW4
PFB3

P02GMW1
P04GMW4
P2MW9GW4
PB-ER5
PFB6

Overview

Twenty water samples for SDG# 209 were validated for semi-volatile organic compounds analyzed using LCBNA 10/92 methodology.

Summary

All samples were successfully analyzed for target compounds. Sample, PBER5, contained bis(2-Ethylhexyl)phthalate above the Contract Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times. Sample PFB3 was re-extracted out of holding times and reanalyzed within holding times. Based on professional judgement qualifiers were not added

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

No compound failed precision criteria ($RSD < 30\%$, $\%D < 25\%$) during initial and continuing calibration. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

Bis(2-Ethylhexyl)phthalate was detected in two of the method blanks. One blank also contained phenol. Di-n-butylphthalate, bis-(2-Ethylhexyl)phthalate, benzo(a)anthracene, and chrysene were detected in one or more of the associated field blanks and/or equipment rinseate. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

Three acid surrogates; D5-phenol, 2-fluorophenol, and 2,4,6-tribromophenol, were outside recovery criteria for samples, PFB3 and PFB3RE. Detects for target compounds associated with these surrogates were qualified "L", non-detects were qualified "UL". All other surrogates meet recovery criteria.

Laboratory Control Sample

The laboratory control sample met all recovery criteria.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

**Phelps Collins
Alpena, MI
Semi-Volatile Organic Date Validation CLP
Sampling Date July 1993**

Samples in SDG # 28

P04D001	P04D001A	P04D002A	P04D002B
P04D003	P04D004A	P04D004B	P04D005A
P04D005B	P04D006A	P04D006B	P04D007
P04D008	P04D009A	P04D009B	P04D010A
P04D010B	P04D017	P04D104B	P04D106B

Overview

Twenty soil samples for SDG# 28 were validated for semi-volatile organic compounds analyzed using CLP methodology.

Summary

All samples were successfully analyzed for target compounds. No samples contained target compounds above the Contract Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

No compound failed precision criteria, $RSD < 30\%$, during initial calibration. Several compounds failed precision criteria, $\%D < 25\%$, during continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

One method blank contained bis(2-Ethylhexyl) phthalate. Di-n-butyl phthalate, bis(2-Ethylhexyl) phthalate, phenol, and/or diethylphthalate were detected one or more of the associated field blanks and/or equipment rinseates. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

All surrogates met recovery criteria.

Matrix Spike/Matrix Spike Duplicate

Sample P04D004B was used for the matrix spike/matrix spike duplicate. Phenol was out of control limits in the matrix spike for spike recovery. No compound was outside control limits for ,RPD, relative percent difference. The samples were not qualified based on matrix spike/matrix spike duplicate data.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Date Validation CLP
Sampling Date August 1993

Samples in SDG # 447

P02B60002	P08B61213	P00B20001	P02B70001
P08B71213	P08B60002	P02B40304	P00B20203
P02B80506	P02B80002	P02B70506	P02B60506
P08B70002	P02B90406	P08B81012	P08B80102
P02B90304	P08B80910	P6D2	

Overview

Nineteen soil samples for SDG# 447 were validated for semi-volatile organic compounds analyzed using CLP methodology.

Summary

All samples were successfully analyzed for target compounds. Three samples; P02B60002, P08B80102, and P6D2, were outside control limits for the sixth internal standard and were reanalyzed within holding times. No samples contained target compounds above the Contact Required Quantitation Limit (CRQL). Several samples contained various target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

No compounds failed precision criteria, RSD <30%, during initial calibration. Several compounds failed precision criteria, %D <25%, during continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

No target compounds were detected in the associated method blanks. Phenol, diethylphthalate, phenanthrene, carbazole, and bis(2-Ethylhexyl)phthalate were detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

One acid surrogate, 2,4,6-tribromophenol, failed to meet recovery criteria for P08B00102 and P08B00102RE. Since only one surrogate was out of control limits qualifiers were not added.

Matrix Spike/Matrix Spike Duplicate

Sample P02B40304 was used for the matrix spike/matrix spike duplicate. None of the spike compounds were out of control limits for spike recovery. Five of the eleven compounds were outside control limits for ,RPD, relative percent difference. The samples were not qualified based on matrix spike/matrix spike duplicate data.

Internal Standards

The sixth internal standard, D-12 perylene failed control criteria for samples P02B60002, P08B80102, P6D, and their reanalysis. The target compounds associated with the sixth internal standard was qualified "UJ" for non detects and "J" for detects.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date August 1993

Samples in SDG # 523

P2MW2GW4
P5MW1GW4
PBER12

P2MW4GW4
PBER07

P4MW1GW4
PBER10

P4MW8GW4
PBER11

Overview

Nine water samples for SDG# 523 were validated for semi-volatile organic compounds analyzed using LCBNA 10/92 methodology.

Summary

All samples were successfully analyzed for target compounds. No sample contained target compounds above the Contact Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 30\%$, $\%D < 25\%$) during initial and continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

One of the associated method blanks contained bis(2-Ethylhexyl)phthalate. No target analytes were detected in any of the associated field blanks or equipment rinseates. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

All surrogates met recovery criteria.

Laboratory Control Sample

The laboratory control sample met all recovery criteria.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date August 1993

Samples in SDG # 606

P02B20002	P02B20405	P02B30002	P02B30405
P02B30507	P02B40002	P02B40405	P02B50002
P02B50405	P1B100002	P1B100304	P1B110002
P1B110304	P1B120002	P1B130002	P1B130304
P1B20002	P6D1	P6D3	P6D4

Overview

Twenty soil samples for SDG# 606 were validated for semi-volatile organic compounds analyzed using CLP methodology.

Summary

All samples were successfully analyzed for target compounds. Sample, P6D4, contained target compounds above the Contract Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

No compound failed the precision criteria, $RSD < 30\%$ during initial calibration. Several compounds failed precision criteria, $\%D < 25\%$, during continuing calibration. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

No target compounds were detected in the associated method blanks. Bis(2-Ethylhexyl)phthalate, phenol, diethylphthalate, phenanthrene, and carbazole were detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

All surrogates met recovery criteria.

Matrix Spike/Matrix Spike Duplicate

Four of the twenty-two spike recoveries failed high for the matrix spike/matrix spoke duplicate. All of the relative percent differences were within control limits. The data was not qualified based on the matrix spike/matrix spike duplicate data.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

**Phelps Collins
Alpena, MI
Semi-Volatile Organic Date Validation CLP
Sampling Date August 1993**

Samples in SDG # 674

P03MW2GW4
P05PW3GW4
P6MW3GW4
P9MW5GW4
PER15

P03MW3GW4
P05MW4GW4
P9MW1GW4
PBER-16
PFB05

P03MW4GW4
P3MW5GW4
P9MW2GW4
PBER-13
PFB4

P05MW2GW4
P3MW9GW4
P9MW3GW4
PER14

Overview

Nineteen water samples for SDG# 674 were validated for semi-volatile organic compounds analyzed using LCBNA 10/92 methodology.

Summary

All samples were successfully analyzed for target compounds. Several samples contained target compounds above the Contract Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times. Sample PBER16 was re-extracted out of holding time and reanalyzed within holding times. Based on professional judgement qualifiers were not added.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

No compound failed precision criteria ($RSD < 30\%$, $\%D < 25\%$) during initial and continuing calibration. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

Several target compounds were detected in the method blanks. bis (2-Ethylhexyl)phthalate was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

Six surrogates; D5-nitrobenzene, 2-fluorobiphenyl, terphenyl, D5-phenol, 2-fluorophenol and 2,4,6-tribromophenol, were outside recovery criteria for sample P9MW5GW4. Recovery was less than 10% for all surrogates and all non-detects were qualified "R", all detects were qualified "L". Four surrogates; D5-nitrobenzene, 2-fluorobiphenyl, terphenyl, and 2,4,6-tribromophenol were outside recovery limits for sample PBER-16. All recoveries were low but greater than 10%, all associated non-detects were qualified "UL" and all detects qualified "L". Two surrogates; D5-phenol and 2-fluorophenol, were outside recovery criteria for PFB4 and PFB4RE. Recovery for D5-phenol was 0% recovery for 2-fluorophenol was low but greater than 10%. . Non-detects for associated target compounds were qualified "R" detects were qualified "L". All other surrogates met recovery criteria.

Laboratory Control Sample

The laboratory control sample met all recovery criteria.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date July 1993

Samples in SDG # 708

P01B40001	P01B40203	P01B50002	P01B50304
P01B60002	P01B60304	P01B70002	P01B70304
P01B80002	P01B80304	P01B90002	P01B90304
P3B110002	P3B111012	P3B120002	P3B120810
P3B121012	P3B130002	P3B130204	P3B131012

Overview

Twenty soil samples for SDG# 708 were validated for semi-volatile organic compounds analyzed using CLP methodology.

Summary

All samples were successfully analyzed for target compounds. Sample P3B120810, contained eight target compounds above the Contract Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

No compound failed precision criteria, $RSD < 30\%$, during initial calibration. Several compounds failed precision criteria, $\%D < 25\%$, during continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

No target compounds were detected in the associated method blanks. Phenol was detected in one or more of the associated field blanks and/or equipment rinseate. Sample detects for phenol were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects for phenol were not qualified "B", if the sample concentration was greater than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

One surrogate, terphenyl-d14, was outside recovery criteria for two samples, P3B110002 and P3B121012. Qualifiers were not added since only one surrogate was outside control limits. All other surrogates met recovery criteria.

Matrix Spike/Matrix Spike Duplicate

Sample P3B120810 was used for the matrix spike/matrix spike duplicate. Pyrene was outside control limits in both the matrix spike and matrix spike duplicate. No compound was outside control limits for ,RPD, relative percent difference. The samples were not qualified based on matrix spike/matrix spike duplicate data.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date August 1993

Samples in SDG # 912

P3B110406 P3B120406 P3B130406 P3B200002

Overview

Four soil samples for SDG# 912 were validated for semi-volatile organic compounds analyzed using CLP methodology.

Summary

All samples were successfully analyzed for target compounds. Sample P3B200002 contained several target compounds above the Contract Required Quantitation Limit (CRQL). Sample P3B200002 contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

Several compounds were saturated during initial calibration. None of these compounds were detected in the associated sample and no qualifiers were added. Several compounds failed precision criteria ($RSD < 30\%$, $\%d < 25\%$) during initial and continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

One of the associated method blanks contained Di-n-Butylphthalate. Phenol was detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

All surrogate met recovery criteria.

Matrix Spike/Matrix Spike Duplicate

Sample P3B110406 was used for the matrix spike/matrix spike duplicate. All spike recoveries (SR) and relative percent differences (RPD) were within quality control limits for the matrix spike/matrix spike duplicate.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

**Phelps Collins
Alpena, MI
Semi-Volatile Organic Data Validation CLP
Sampling Date September 1993**

Samples in SDG # 992

P1MW2GW4	P1MW3GW4	P1MW4GW4	P2MW6GW4
P2MW7GW4	P3MW6GW4	P3MW7GW4	P5MW8GW4
P5MW9GW4	P6MW8GW4	P6MW9GW4	P7MW4GW4
P9MW4GW4	PER18	PER19	PFB07

Overview

Sixteen water samples for SDG# 992 were validated for semi-volatile organic compounds analyzed using LCBNA 10/92 methodology.

Summary

All samples were successfully analyzed for target compounds. No sample contained target compounds above the Contract Required Quantitation Limit (CRQL). Several samples contained target compounds below the contract Required Quantitation Limit. The QA/QC level was HAZWRAP level C for all samples.

Major Problems

None

Minor Problems

Holding Times

All samples were extracted and analyzed within recommended holding times.

GC/MS Tune

No problems were associated with the GC/MS instrument performance check.

Calibration Criteria

Several compounds failed precision criteria ($RSD < 30\%$, $\%D < 25\%$) during initial and continuing calibrations. Detects for these compounds were qualified "J" for estimated. The quantitation limits for non-detects were not qualified

Blanks

All associated method blanks contained bis(2-Ethylhexyl)phthalate, one method blank also contained Di-n-butylphthalate. Phenol and di-ethyl phthalate were detected in one or more of the associated field blanks and/or equipment rinseates. Sample detects for the common phthalate contaminants were qualified "B", if the detected concentration was less than 10 times the concentration detected in any of the associated blanks or equipment rinseates. Sample detects for other contaminants were qualified "B" if the detected concentration was less than 5 times the concentration detected in any of the associated blanks or equipment rinseates. Detects were not qualified "B", if the sample concentration was greater than 10x the concentration of the common laboratory contaminants or 5 times the concentration of the other contaminants detected in any of the associated blanks or equipment rinseates. Non-detects were not qualified.

Surrogates

☛ All surrogates met recovery criteria.

Laboratory Control Sample

The laboratory control sample meet all recovery criteria. Bis (2-Ethylhexyl)phthalate was outside control limits, but is not a spike compound therefore no corrective action was taken.

Internal Standards

No problems were associated with the internal standards.

No other problems were noted during the data validation.

Inorganic Compound Data Validation

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**APPENDIX L: Analytical Results; Site 5 Soils Data
(collected 1991 and 1993) and RI
Laboratory Data**

Site 5 Soils Data (collected 1991 and 1993)

10

L-1

- - Currently under Review

B - Blank Contamination

J-Result estima

B. Quantitation Limit Unreliable

SUMMARY OF 1991 SOIL SAMPLING RESULTS - SITE 5
MIANG, CRTG, PHELPS COLLINS AIRPORT
ALPENA, MICHIGAN

Site:	PC-SF5 SB3	PC-SF5 SB3	PC-SF5 SB4	PC-SF5 SB4	PC-SF5 SB4	MOST STRINGENT STATE ARAR
Location:	18-OCT-91	18-OCT-91	18-OCT-91	18-OCT-91	18-OCT-91	
Collect Date:	0 inches-6 inches	48 inches-54 inches	48 inches-54 inches	0 inches-6 inches	0 inches-6 inches	
Depth:	0 U 350 ug/kg	0 U 380 ug/kg	0 U 340 ug/kg	0 U 340 ug/kg	0 U 380 ug/kg	
Lab Name:	0 U 840 ug/kg	0 U 930 ug/kg	0 U 830 ug/kg	0 U 930 ug/kg	0 U 930 ug/kg	
Station Number:	0 U 350 ug/kg	51 J	0 U 340 ug/kg	39 J	39 J	
	Result Qual DL Units	Result Qual DL Units	Result Qual DL Units	Result Qual DL Units	Result Qual DL Units	
Methylene Chloride	3180 [0.82] L 0.5 mg/kg	2090 [5] 0.1 mg/kg	1040 [3.7] 0.1 mg/kg	2820 [8.9] 0.1 mg/kg	2820 [8.9] 0.1 mg/kg	100 ug/kg
Benzene	16.1 [168] J 0.4 mg/kg	1194 [3.2] 0.4 mg/kg	6.2 J 0.4 mg/kg	3.2 J 0.4 mg/kg	3.2 J 0.4 mg/kg	20000 ug/kg
Chloroform	11.3 [1.8] 0.5 mg/kg	10.94 [3] 0.6 mg/kg	0 U 0.51 mg/kg	0 U 0.57 mg/kg	0 U 0.57 mg/kg	1.245 ug/kg
1,1,1-Trichloroethane	2180 [1.4] 0.2 mg/kg	2040 [1.2] 0.2 mg/kg	1440 [0.81] 0.2 mg/kg	4.7 0.6 mg/kg	4.7 0.6 mg/kg	6 ug/kg
Carbon Tetrachloride	1.4 [383] 3.5 mg/kg	1.2 [340] 3.5 mg/kg	0.81 0.2 mg/kg	1830 [3.7] 0.2 mg/kg	1830 [3.7] 0.2 mg/kg	40 ug/kg
1,2-Dichloroethane	20 [2.7] 0.8 mg/kg	16.1 [11.9] 0.8 mg/kg	12.3 [4.7] 0.8 mg/kg	21.7 [2.3] 0.8 mg/kg	21.7 [2.3] 0.8 mg/kg	Local Background
1,1-Dichloroethene	1135 [0.31] 0.31 mg/kg	1199 [0.59] 0.33 mg/kg	166 [0.59] 0.33 mg/kg	1049 [0.49] 0.33 mg/kg	1049 [0.49] 0.33 mg/kg	Local Background
1,2-Dichloroethene	0 R 0.31 mg/kg	0 R 0.33 mg/kg	0 R 0.33 mg/kg	0 U 0.61 mg/kg	0 U 0.68 mg/kg	0.8 mg/kg
1,1,2,2-Tetrachloroethane	0 U 0.62 mg/kg	0 U 0.66 mg/kg	0 U 0.66 mg/kg	0 U 0.61 mg/kg	0 U 0.68 mg/kg	0.8 mg/kg
1,1,1,2-Tetrachloroethane	146.5 [56.5] B 0.21 mg/kg	166.6 [56.6] B 0.22 mg/kg	166.6 [56.6] B 0.22 mg/kg	170 [56.8] B 0.23 mg/kg	170 [56.8] B 0.23 mg/kg	3000 mg/kg
1,1,2,2-Tetrachloroethane	0 U 0.21 mg/kg	0 U 0.22 mg/kg	0 U 0.22 mg/kg	0 U 0.23 mg/kg	0 U 0.23 mg/kg	Local Background
1,1,2,2-Tetrachloroethane	14.9 [4.9] 0.6 mg/kg	14.5 [4.5] 0.6 mg/kg	13.5 [3.5] 0.6 mg/kg	13.8 [3.8] 0.6 mg/kg	13.8 [3.8] 0.6 mg/kg	20 mg/kg or bldg
1,1,2,2-Tetrachloroethane	6.1	28.8	5.6	17.5	17.5	20 mg/kg or bldg
Total Petroleum Hydrocarbons	0 BDL 25 mg/kg	0 BDL 25 mg/kg	0 BDL 25 mg/kg	0 BDL 25 mg/kg	0 BDL 25 mg/kg	100 mg/kg

Only those analytes which were positively detected in one or more samples are shown

* - Currently under Review

Key to Qualifiers:

B - Blank Contamination

U - Non Detect

J - Result estimated

UL - Result between Contract Required Detection Limit and Instrument Detection Limit

UL - Quantitation Limit Estimated

UL - Quantitation Limit Biased Low

R - Quantitation Limit Unreliable

SUMMARY OF 1991 SOIL SAMPLING RESULTS - SITE 5
MIANG, CRTIC, PHELPS COLLINS AIRPORT
ALPENA, MICHIGAN

Site:	PC-SF5				PC-SF5				PC-SF5				PC-SF5				MOST STRINGENT STATE ARAR
	SBI	17-OCT-91	48 inches-54 inches	CompuChem Labs	SBI	17-OCT-91	48 inches-54 inches	CompuChem Labs	SB2	17-OCT-91	48 inches-54 inches	CompuChem Labs	SB2	0 inches-6 inches	CompuChem Labs		
Location:	Collect Date:																
Depth:	0 inches-6 inches																
Lab Name:	CompuChem Labs																
Station Number:	PC-SF5-SBI-SS06																
	Result	Qual	DL	Units	Result	Qual	DL	Units	Result	Qual	DL	Units	Result	Qual	DL	Units	
Methylene Chloride	20	B	3.1	ug/kg	9.6	B	3.1	ug/kg	31	B	3.1	ug/kg	39	B	3.1	ug/kg	
Butylbenzylphthalate	120	BJ		ug/kg	0	U	300	ug/kg	110	BJ	350	ug/kg	0	U	350	ug/kg	
Dichyl Phthalate	0	U	380	ug/kg	0	U	300	ug/kg	0	U	350	ug/kg	0	U	350	ug/kg	
Pentachlorophenol	0	U	910	ug/kg	130			ug/kg	0	U	850	ug/kg	0	U	850	ug/kg	
bis(2-Ethylhexyl)phthalate	0	U	380	ug/kg	110	B		ug/kg	0	U	350	ug/kg	40	BJ	350	ug/kg	
Aluminum	3180			mg/kg	1600			mg/kg	1230			mg/kg	2590			mg/kg	
Arsenic	1.3			mg/kg	0	U	0.54	mg/kg	0	U	0.54	mg/kg	1.6			mg/kg	
Barium	[12.7]			mg/kg	[12.1]			mg/kg	[6.1]			mg/kg	[14.2]			mg/kg	
Calcium	2190	J		mg/kg	[448]	J		mg/kg	[334]	J		mg/kg	51300			mg/kg	
Chromium	4.1			mg/kg	3.2			mg/kg	3.1			mg/kg	2.8			mg/kg	
Cobalt	[1.4]			mg/kg	[0.83]			mg/kg	[0.98]			mg/kg	[1.1]			mg/kg	
Copper	14.8	K		mg/kg	[1.8]	K		mg/kg	3.2	K		mg/kg	16.7	K		mg/kg	
Iron	2580			mg/kg	1660			mg/kg	2010			mg/kg	2360			mg/kg	
Lead	52.5			mg/kg	11.5			mg/kg	1.1			mg/kg	5.9			mg/kg	
Magnesium	525			mg/kg	[469]			mg/kg	[481]			mg/kg	8970			mg/kg	
Manganese	22.1			mg/kg	14.2			mg/kg	18.4			mg/kg	60.2			mg/kg	
Nickel	[137]			mg/kg	[2.2]			mg/kg	[2.6]			mg/kg	[3.2]			mg/kg	
Potassium	0	U	0.31	mg/kg	[207]			mg/kg	[223]			mg/kg	[268]			mg/kg	
Selenium	1.1	J		mg/kg	0	U	0.33	mg/kg	0	U	0.32	mg/kg	0	U	0.32	mg/kg	
Silver	[57.6]	B		mg/kg	0	U	0.65	mg/kg	0	U	0.64	mg/kg	0	U	0.64	mg/kg	
Sodium	0	U	0.21	mg/kg	[57.4]	B		mg/kg	[47.4]	B		mg/kg	[90.7]			mg/kg	
Thallium	[4.7]			mg/kg	0	U	0.22	mg/kg	0	U	0.21	mg/kg	0	U	0.21	mg/kg	
Vanadium	43.9	J		mg/kg	[3.7]			mg/kg	[4.5]			mg/kg	5.4			mg/kg	
Zinc				mg/kg	23.9	J		mg/kg	4.6	J		mg/kg	17	J		mg/kg	
Total Petroleum Hydrocarbons	130			25 mg/kg	1400			25 mg/kg	26			25 mg/kg	0	U		25 mg/kg	

Only those analytes which were positively detected in one or more samples are shown

* - Currently under Review

Key to Qualifiers:

B - Blank Contamination

U - Not Detected

J - Result estimated

[I] - Result between Contract Required Detection Limit and Instrument Detection Limit

UL - Quantitation Limit Estimated

UL - Quantitation Limit Biased Low

R - Quantitation Limit Unreliable

Data Summary Table - Soils Site 5 Second Fire Training Area
MIANG, CRTC, PHELPS COLLINS AIRPORT
ALPENA, MICHIGAN

Sample Number:	P05B6010 3	P05B6040 7	P05B7010 3	P05B7040 7	MDNR Cleanup Level
Date:	1/21/93	1/21/93	1/21/93	1/21/93	
Depth:	1'- 3'	4'- 7'	1'- 3'	4'- 7'	
SVOCs: CLP 3/90 (ppb)					
Butylbenzylphthalate	460 B	280 B	360 B		20,000
bis(2-ethylhexyl)phthalate	130	66	400	270	40
2-methylnapthalene					200
Lead (ppm)	6.0	8.6	54.1	13.9	7.0
TPH 418.1 (ppm)	211	*	2680	2820	100

Notes:

Blank spaces indicate compound not detected above CRQL.

Data Summary Table - Soils Site 5 Second Fire Training Area
MIANG, CRTIC, PHELPS COLLINS AIRPORT
ALPENA, MICHIGAN

Sample Number:	P05B8010 3 (1)	P05B8020 4 (1)	P05B8040 7	P05B9010 3	MDNR Cleanup Level
Date:	1/21/93	1/21/93	1/21/93	1/21/93	
Depth:	1'- 3'	2'- 4'	4'- 7'	1'- 3'	
SVOCs: CLP 3/90 (ppb)					
Butylbenzylphthalate	250 B	300 B	390 B	430 B	20,000
bis(2-ethylhexyl)phthalate					40
2-methylnapthalene			56		200
Lead (ppm)	4.4	2.6	2.6	2.9	7.0
TPH 418.1 (ppm)	122	33	47.9	123	100

Notes:

Blank space indicates compound not detected above CRQL.

(1) Field duplicate pair

B - Blank contamination

**Data Summary Table - Soils Site 5 Second Fire Training Area
MIANG, CRTG, PHELPS COLLINS AIRPORT
ALPENA, MICHIGAN**

Sample Number:	P05B9040 7	P5B10010 3'	P5B10020 4'	P5B10040 7	MDNR Cleanup Level
Date:	1/21/93	1/21/93	1/21/93	1/21/93	
Depth:	4'- 7'	1'- 3'	2'- 4'	1'- 3'	
SVOCs: CLP 3/90 (ppb)					
Butylbenzylphthalate		290	300 B	85 B	20,000
bis(2-ethylhexyl)phthalate		85	57		40
2-methylnapthalene					200
Lead (ppm)	2.1	11.2	44.6 J	4.8 J	7.0
TPH 418.1 (ppm)	572	104	58.0	38.6	100

Notes:

Blank space indicates compound not detected above CRQL
 (1) Field duplicate pair
 B - Blank contamination
 J - Estimated value

Data Summary Table - Soils Site 5 Second Fire Training Area
MIANG, CRTC, PHELPS COLLINS AIRPORT
ALPENA, MICHIGAN

Sample Number:	P5B11010 3	P5B11040 7	P5B12010 4	P5B12060 9	MDNR Cleanup Level
Date:	1/21/93	1/21/93	1/21/93	1/21/93	
Depth:	1'- 3'	4'- 7'	1'- 4'	6'- 9'	
SVOCs: CLP 3/90 (ppb)					
Butylbenzylphthalate				37	20,000
bis(2-ethylhexyl)phthalate					40
2-methylnapthalene					200
Lead (ppm)	5.1 J	1.3 J	2.2 J	1.1	7.0
TPH 418.1 (ppm)	74.5	121	35.1		100

Notes:

Blank space indicates compound not detected above CRQL
J - Estimated value

**Data Summary Table - Soils Site 5 Second Fire Training Area
MIANG, CRTC, PHELPS COLLINS AIRPORT
ALPENA, MICHIGAN**

Sample Number:	P5B13010 4	P5B13061 1	P5B14010 3	P5B14061 2	MDNR Cleanup Level
Date:	1/21/93	1/21/93	1/21/93	1/21/93	
Depth:	1'- 4'	6'- 11'	1'- 3'	6'- 12'	
SVOCs: CLP 3/90 (ppb)					
Butylbenzylphthalate					20,000
bis(2-ethylhexyl)phthalate					40
2-methylnapthalene					20
Lead (ppm)	1.1	1.5	1.1	1.1	7.0
TPH 418.1 (ppm)				13.1	100

Notes:

Blank space indicates compound not detected above CRQL

RI Laboratory Data

Analytical Results from Rem Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

UNITS:

[illegible]

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	EB01		EB02		ER01		ER02		ER03		ER04	
	PC-EB01		PC-EB02		PC-ER01		PC-ER02		PC-ER03		PC-ER04	
	11/12/92	11/12/92	11/12/92	11/12/92	07/29/93	07/29/93	07/29/93	07/29/93	07/31/93	07/31/93	08/01/93	08/01/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Dibromomethane	0.40	U	0.40	U	0.40	U	-	-	0.40	U	0.40	U
Ethylbenzene	-	U	-	U	-	U	-	-	-	U	-	U
Methyl bromide	0.45	U	0.45	U	0.45	U	-	-	0.45	U	0.45	U
Methyl chloride	0.50	U	0.50	U	0.50	U	-	-	0.50	U	0.50	U
Methylene chloride	2.40	B	2.60	B	0.11	B	-	-	0.16	-	0.78	-
Styrene	-	U	-	U	-	U	-	-	-	U	-	U
Tetrachloroethylene	0.30	U	0.30	U	0.30	U	-	-	0.30	U	0.30	U
Toluene	-	U	-	U	-	U	-	-	-	U	-	U
Trichloroethylene	0.30	U	0.30	U	0.30	U	-	-	0.30	U	0.30	U
Vinyl chloride	0.55	U	0.55	U	0.55	U	-	-	0.55	U	0.55	U
Xylenes (TOTAL)	-	U	-	U	-	U	-	-	-	U	-	U
8020	0.28	U	0.15	U	0.15	U	-	-	0.15	U	0.07	B
1,2-Dichlorobenzene	0.20	U	0.20	U	0.20	U	-	-	0.20	U	0.20	U
1,2-Dimethylbenzene	0.33	U	0.20	U	0.20	U	-	-	0.20	U	0.20	U
1,3-Dichlorobenzene	-	U	-	U	-	U	-	-	-	U	-	U
1,3-Dimethylbenzene	0.50	U	0.50	U	0.50	U	-	-	0.50	U	0.50	U
1,3/1,4-Dimethylbenzene	0.15	U	0.15	U	0.15	U	-	-	0.15	U	0.15	U
1,4-Dichlorobenzene	-	U	-	U	-	U	-	-	-	U	-	U
1,4-Dimethylbenzene	0.35	U	0.35	U	0.35	U	-	-	0.35	U	0.35	U
Benzene	0.25	U	0.25	U	0.25	U	-	-	0.25	U	0.25	U
Chlorobenzene	0.20	U	0.20	U	0.20	U	-	-	0.20	U	0.20	U
Ethylbenzene	5	U	5	U	5	U	-	-	5	U	5	U
Methyl-t-Butyl Ether	0.25	U	0.25	U	0.25	U	-	-	0.25	U	0.25	U
Styrene	0.25	U	0.25	U	0.25	U	-	-	0.13	B	0.29	B
Toluene	5	U	5	U	5	U	-	-	5	U	5	U
CLP 3/90	-	U	-	U	-	U	-	-	-	U	-	U
1,2,4-Trichlorobenzene	-	U	-	U	-	U	-	-	-	U	-	U
1,2-Dichlorobenzene	-	U	-	U	-	U	-	-	-	U	-	U
1,3-Dichlorobenzene	-	U	-	U	-	U	-	-	-	U	-	U
1,4-Dichlorobenzene	-	U	-	U	-	U	-	-	-	U	-	U
2,2'-Oxybis(1-Chloropropane)	5	U	5	U	5	U	-	-	5	U	5	U
2,4,5-Trichlorophenol	20	U	20	U	20	U	-	-	20	U	20	U
2,4,6-Trichlorophenol	5	U	5	U	5	U	-	-	5	U	5	U
2,4-Dichlorophenol	5	U	5	U	5	U	-	-	5	U	5	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

	EB01		EB02		ER01		ER02		ER03		ER04	
	PC-EB01	11/12/92	PC-EB02	11/12/92	PC-ER01	07/29/93	PC-ER02	07/29/93	PC-ER03	07/31/93	PC-ER04	08/01/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
2,4-Dimethylphenol	5	U	5	U	5	UJ	-	-	5	U	5	U
2,4-Dinitrophenol	20	U	20	U	20	UJ	-	-	20	U	20	U
2,4-Dinitrotoluene	5	U	5	U	5	UJ	-	-	5	U	5	U
2,6-Dinitrotoluene	5	U	5	U	5	UJ	-	-	5	U	5	U
2-Chloronaphthalene	5	U	5	U	5	UJ	-	-	5	U	5	U
2-Chlorophenol	5	U	5	U	5	UJ	-	-	5	U	5	U
2-Methyl-4,6-Dinitrophenol	20	U	20	U	20	UJ	-	-	20	U	20	U
2-Methylnaphthalene	5	U	5	U	5	UJ	-	-	5	U	5	U
2-Methylphenol	5	U	5	U	5	UJ	-	-	5	U	5	U
2-Nitroaniline	20	U	20	UJ	20	UJ	-	-	20	U	20	U
2-Nitrophenol	5	U	5	U	5	UJ	-	-	5	U	5	U
3,3'-Dichlorobenzidine	5	UJ	5	UJ	5	UJ	-	-	5	U	5	U
3-Nitroaniline	20	U	20	U	20	UJ	-	-	20	U	20	U
4-Bromophenyl phenyl ether	5	U	5	UJ	5	UJ	-	-	5	U	5	U
4-Chloro-3-methyl phenol	5	U	5	U	5	UJ	-	-	5	U	5	U
4-Chloroaniline	5	U	5	U	5	UJ	-	-	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	UJ	-	-	5	U	5	U
4-Methylphenol	5	U	5	U	5	UJ	-	-	5	U	5	U
4-Nitroaniline	20	U	20	U	20	UJ	-	-	20	U	20	U
4-Nitrophenol	20	U	20	UJ	20	UJ	-	-	20	U	20	U
Acenaphthene	5	U	5	U	5	UJ	-	-	5	U	5	U
Acenaphthylene	5	U	5	U	5	UJ	-	-	5	U	5	U
Anthracene	5	U	5	U	5	UJ	-	-	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	UJ	-	-	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	UJ	-	-	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	UJ	-	-	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	UJ	-	-	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	UJ	-	-	5	U	5	U
Butyl benzyl phthalate	5	U	5	UJ	5	UJ	-	-	5	U	5	U
Carbazole	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	5	U	5	U	5	UJ	-	-	5	U	5	U
Di-n-butyl phthalate	5	U	5	U	5	UJ	-	-	5	U	5	U
Di-n-octyl phthalate	5	UJ	5	UJ	5	UJ	-	-	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	UJ	-	-	5	U	5	U
Dibenzofuran	5	U	5	U	5	UJ	-	-	5	U	5	U
Diethyl phthalate	5	U	2	B	5	UJ	-	-	2	U	5	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	EB01		EB02		ER01		ER02		ER03		ER04	
	PC-EB01		PC-EB02		PC-ER01		PC-ER02		PC-ER03		PC-ER04	
	11/12/92	11/12/92	11/12/92	11/12/92	07/29/93	07/29/93	07/29/93	07/29/93	07/31/93	07/31/93	08/01/93	08/01/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Dimethyl phthalate	5	U	5	U	5	UJ	-	-	5	U	5	U
Fluoranthene	5	U	5	U	5	UJ	-	-	5	U	5	U
Fluorene	5	U	5	U	5	UJ	-	-	5	U	5	U
Hexachlorobenzene	5	U	5	UJ	5	UJ	-	-	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	UJ	-	-	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	UJ	-	-	5	U	5	U
Hexachloroethane	5	U	5	U	5	UJ	-	-	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	UJ	-	-	5	U	5	U
Isophorone	5	U	5	U	5	UJ	-	-	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	UJ	-	-	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	UJ	-	-	5	U	5	U
Naphthalene	5	U	5	U	5	UJ	-	-	5	U	5	U
Nitrobenzene	5	U	5	U	5	UJ	-	-	5	U	5	U
Pentachlorophenol	20	U	20	U	20	UJ	-	-	20	U	20	U
Phenanthrene	5	U	5	U	5	UJ	-	-	5	U	5	U
Phenol	5	U	5	U	5	UJ	-	-	5	U	5	U
Pyrene	5	U	5	U	5	UJ	-	-	5	U	5	U
bis(2-Chloroethoxy)methane	5	U	5	U	5	UJ	-	-	5	U	5	U
bis(2-Chloroethyl) ether	5	U	5	U	5	UJ	-	-	5	U	5	U
bis(2-Ethylhexyl)phthalate	69	B	3	B	15	J	-	-	20	U	9	B
METALS												
Antimony	60	U	60	U	35	U	45	U	35	U	35	U
Antimony, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	4	U	4	UW	4	U	4	U	4	U	4	U
Arsenic, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	1	U	1	U	1	U	4	U	1	U	1	U
Beryllium, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	5	U	5	U	3	U	5	U	3	U	3	U
Cadmium, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	6	U	6	U	8	U	10	U	8	U	8	U
Chromium, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Copper	5	U	5	U	4	U	15	U	4.60	OB	4	U
Copper, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Lead	2	U	5.50	U	2	U	2	U	2	U	2	U
Lead, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

	EB01		EB02		ER01		ER02		ER03		ER04	
	PC-EB01	11/12/92	PC-EB02	11/12/92	PC-ER01	07/29/93	PC-ER02	07/29/93	PC-ER03	07/31/93	PC-ER04	08/01/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	11	U	11	U	18	U	35	U	18	U	18	U
Nickel, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	4	U	4	UWN	3	UL	3	U	3	U	3	U
Selenium, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Silver	6	U	6	U	4	U	4	U	4	U	4	U
Silver, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	2	U	2	U	3	U	3	UL	3	U	3	U
Thallium, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	5.30	QB	5.30	QB	4.30	0	5	U	4	U	4	U
Zinc, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
TPH	-	-	-	-	0.25	U	-	-	0.25	U	0.25	U
Total Petroleum Hydrocarbons	-	-	-	-	-	-	-	-	-	-	-	-

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	ER05 PC-ER05 08/12/93		ER07 PC-ER07 08/15/93		ER08 PC-ER08 08/15/93		ER09 PC-ER09 08/15/93		ER10 PC-ER10 08/17/93		ER11 PC-ER11 08/17/93	
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010													
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	-	U	-	U
1,1,1-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,2,2-Tetrachloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2-Trichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	-	U	-	U
1,2-Dibromomethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	-	U	-	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloroethylene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Butanone	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	-	U	-	U
2-Hexanone	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
2-Propanone	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	-	U	-	U
4-Methyl-2-pentanone	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Benzene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	-	U	-	U
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	-	U	-	U
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Disulfide	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	ug/l	0.21	U	0.35	U	0.35	U	0.35	U	0.35	U	0.21	U
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

	ER05 PC-ER05 08/12/93	ER07 PC-ER07 08/15/93	ER08 PC-ER08 08/15/93	ER09 PC-ER09 08/15/93	ER10 PC-ER10 08/17/93	ER11 PC-ER11 08/17/93
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:						
Dibromomethane	ug/l	0.40	U	0.40	U	-
Ethylbenzene	ug/l	-	U	-	-	-
Methyl bromide	ug/l	0.45	U	0.45	U	0.45
Methyl chloride	ug/l	0.50	U	0.50	U	0.50
Methylene chloride	ug/l	0.09	U	1	U	0.99
Styrene	ug/l	-	U	-	-	-
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30
Toluene	ug/l	-	U	-	-	-
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55
Xylenes (TOTAL)	ug/l	-	U	-	-	-
8020						
1,2-Dichlorobenzene	ug/l	0.29	B	0.15	U	0.15
1,2-Dimethylbenzene	ug/l	0.20	U	0.20	U	-
1,3-Dichlorobenzene	ug/l	0.07	B	0.20	U	0.20
1,3-Dimethylbenzene	ug/l	-	U	0.04	-	-
1,3/1,4-Dimethylbenzene	ug/l	0.50	U	-	-	-
1,4-Dichlorobenzene	ug/l	0.62	B	0.15	U	0.15
1,4-Dimethylbenzene	ug/l	-	U	0.04	-	-
Benzene	ug/l	0.35	U	0.35	U	0.08
Chlorobenzene	ug/l	0.25	U	0.25	U	0.25
Ethylbenzene	ug/l	0.20	U	0.20	U	0.09
Methyl-t-Butyl Ether	ug/l	5	U	5	U	-
Styrene	ug/l	0.25	U	0.25	U	-
Toluene	ug/l	0.16	B	0.25	U	-
CLP 3/90						
1,2,4-Trichlorobenzene	ug/l	5	U	5	U	5
1,2-Dichlorobenzene	ug/l	-	-	-	-	-
1,3-Dichlorobenzene	ug/l	-	-	-	-	-
1,4-Dichlorobenzene	ug/l	-	-	-	-	-
2,2'-Oxybis(1-Chloropropane)	ug/l	5	U	5	U	5
2,4,5-Trichlorophenol	ug/l	20	U	20	U	20
2,4,6-Trichlorophenol	ug/l	5	U	5	U	5
2,4-Dichlorophenol	ug/l	5	U	5	U	5

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	ER05		ER07		ER08		ER09		ER10		ER11	
		PC-ER05		PC-ER07		PC-ER08		PC-ER09		PC-ER10		PC-ER11	
		08/12/93		08/15/93		08/15/93		08/15/93		08/17/93		08/17/93	
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
2,4-Dimethylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloroaniline	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Methylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Nitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
Acenaphthene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Acenaphthylene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Anthracene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)anthracene	ug/l	5	U	5	U	0.90	U	5	U	5	U	5	U
Benzo(a)pyrene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(b)fluoranthene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(ghi)perylene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(k)fluoranthene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Butyl benzyl phthalate	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Carbazole	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Chrysene	ug/l	5	U	5	U	1	U	5	U	5	U	5	U
Di-n-butyl phthalate	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-octyl phthalate	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzo(a,h)anthracene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzofuran	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Diethyl phthalate	ug/l	5	U	4	J	0.90	J	7	J	1	J	5	J

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	ER05		ER07		ER08		ER09		ER10		ER11	
	PC-ER05		PC-ER07		PC-ER08		PC-ER09		PC-ER10		PC-ER11	
	08/12/93	08/15/93	08/15/93	08/15/93	08/15/93	08/15/93	08/15/93	08/15/93	08/17/93	08/17/93	08/17/93	08/17/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Dimethyl phthalate	ug/l	5	U	J	5	J	U	J	5	U	5	U
Fluoranthene	ug/l	5	U	U	5	U	U	U	5	U	5	U
Fluorene	ug/l	5	U	U	5	U	U	U	5	U	5	U
Hexachlorobenzene	ug/l	5	U	U	5	U	U	U	5	U	5	U
Hexachlorobutadiene	ug/l	5	U	U	5	U	U	U	5	U	5	U
Hexachlorocyclopentadiene	ug/l	5	U	U	5	U	U	U	5	U	5	U
Hexachloroethane	ug/l	5	U	U	5	U	U	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	ug/l	5	U	U	5	U	U	U	5	U	5	U
Isophorone	ug/l	5	U	U	5	U	U	U	5	U	5	U
N-Nitrosodi-N-Propylamine	ug/l	5	U	U	5	U	U	U	5	U	5	U
N-Nitrosodiphenylamine	ug/l	5	U	U	5	U	U	U	5	U	5	U
Naphthalene	ug/l	5	U	U	5	U	U	U	5	U	5	U
Nitrobenzene	ug/l	5	U	U	5	U	U	U	5	U	5	U
Pentachlorophenol	ug/l	20	U	U	0.60	J	U	U	20	U	20	U
Phenanthrene	ug/l	5	U	U	5	U	U	U	0.10	U	5	U
Phenol	ug/l	5	U	U	5	U	U	U	2	U	1	U
Pyrene	ug/l	5	U	U	5	U	U	U	5	U	5	U
bis(2-Chloroethoxy)methane	ug/l	5	U	U	5	U	U	U	5	U	5	U
bis(2-Chloroethyl) ether	ug/l	5	U	U	5	U	U	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	21	U	B	8	B	U	B	7	U	4	U
METALS												
Antimony	ug/l	60.50	B	U	35	U	U	U	35	U	35	U
Antimony, Dissolved	ug/l	36.20	OB	U	76.90	B	U	U	4	UL	4	U
Arsenic	ug/l	4	U	U	4	U	U	U	4	U	4	U
Arsenic, Dissolved	ug/l	4	U	U	4	U	U	U	1	U	1	U
Beryllium	ug/l	1	U	U	1	U	U	U	1	U	1	U
Beryllium, Dissolved	ug/l	1	U	U	1	U	U	U	3	U	3	U
Cadmium	ug/l	3	U	U	3	U	U	U	3	U	3	U
Cadmium, Dissolved	ug/l	3	U	U	3	U	U	U	8	U	8	U
Chromium	ug/l	8	U	U	8	U	U	U	8	U	8	U
Chromium, Dissolved	ug/l	8	U	U	8	U	U	U	4.50	OB	4.50	OB
Copper	ug/l	4	U	U	4	U	U	U	4	U	4	U
Copper, Dissolved	ug/l	4	U	U	4	U	U	U	2	U	2	U
Lead	ug/l	2	U	U	2	U	U	U	2	U	2	U
Lead, Dissolved	ug/l	2	U	U	8.50	U	U	U	2	U	2	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:			ER05		ER07		ER08		ER09		ER10		ER11	
SAMPLE ID:			PC-ER05		PC-ER07		PC-ER08		PC-ER09		PC-ER10		PC-ER11	
COLLECTION DATE:			08/12/93		08/15/93		08/15/93		08/15/93		08/17/93		08/17/93	
UNITS:			RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Mercury			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Mercury, Dissolved			0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Nickel, Dissolved			18	U	18	U	18	U	18	U	18	U	18	U
Selenium			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Selenium, Dissolved			3	U	3	U	3	U	3	U	3	U	3	U
Silver			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Silver, Dissolved			4	U	4	U	4	U	4	U	4	U	4	U
Thallium			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Thallium, Dissolved			3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Zinc			ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Zinc, Dissolved			4	U	51.90	U	4	U	226	U	4.60	U	73.30	U
TPH			mg/l		mg/l		mg/l		mg/l		mg/l		mg/l	
Total Petroleum Hydrocarbons			2		0.40		2		2		0.25		2.50	

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	ER12 PC-ER12 08/17/93		ER13 PC-ER13 08/24/93		ER14 PC-ER14 08/26/93		ER15 PC-ER15 08/26/93		ER16 PC-ER16 08/26/93		ER17 PC-ER17 09/12/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	ug/l		0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1-Trichloroethane	ug/l	0.35	0.35	U	0.07	B	0.35	U	0.10	B	0.25	B
1,1,2,2-Tetrachloroethane	ug/l	0.40	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2-Trichloroethane	ug/l	0.25	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1-Dichloroethane	ug/l	0.35	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	-	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	ug/l	-	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	ug/l	0.30	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloroethylene	ug/l	-	-	U	-	U	-	U	-	U	-	U
1,2-Dichloropropane	ug/l	0.30	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	ug/l	0.30	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	ug/l	0.20	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichloropropylene	ug/l	0.30	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-cis-Dichloropropylene	ug/l	0.25	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,3-trans-Dichloropropylene	ug/l	0.20	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,4-Dichlorobenzene	ug/l	-	-	U	-	U	-	U	-	U	-	U
2-Butanone	ug/l	-	-	U	-	U	-	U	-	U	-	U
2-Chloroethylvinyl ether	ug/l	0.40	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	ug/l	-	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
2-Hexanone	ug/l	-	-	U	-	U	-	U	-	U	-	U
2-Propanone	ug/l	-	-	U	-	U	-	U	-	U	-	U
4-Chlorotoluene	ug/l	-	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
4-Methyl-2-pentanone	ug/l	-	-	U	-	U	-	U	-	U	-	U
Benzene	ug/l	-	-	U	-	U	-	U	-	U	-	U
Bromobenzene	ug/l	-	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	ug/l	-	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	ug/l	0.40	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	ug/l	0.50	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Disulfide	ug/l	-	-	U	-	U	-	U	-	U	-	U
Carbon Tetrachloride	ug/l	0.35	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	ug/l	0.35	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Dibromochloromethane	ug/l	0.30	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	ER12		ER13		ER14		ER15		ER16		ER17	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:												
Dibromomethane	-		0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Ethylbenzene	-		-		-		-		-		-	
Methyl bromide	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.12	U	0.50	U
Methylene chloride	0.98	B	0.21	B	0.29	B	0.15	B	0.29	B	0.79	B
Styrene	-		-		-		-		-		-	
Tetrachloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.09	U	0.30	U
Toluene	-		-		-		-		-		-	
Trichloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.08	U	0.30	U
Vinyl chloride	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U
Xylenes (TOTAL)	-		-		-		-		-		-	
8020												
1,2-Dichlorobenzene	0.15	U	0.15	U	0.15	U	0.66	B	0.15	U	0.15	U
1,2-Dimethylbenzene	-		0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dimethylbenzene	-		-		-		-		-		-	
1,3/1,4-Dimethylbenzene	-		0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.15	U	0.25	B	0.15	U	0.07	U	0.15	U	0.15	U
1,4-Dimethylbenzene	-		-		-		-		-		-	
Benzene	0.07	B	0.35	U	0.35	U	0.07	U	0.35	U	0.35	U
Chlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Ethylbenzene	0.20	U	0.11	U	0.20	U	0.10	B	0.20	U	0.20	U
Methyl-t-Butyl Ether	-		5	U	5	U	5	U	5	U	5	U
Styrene	-		0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Toluene	0.28	B	0.19	B	0.25	U	0.17	B	0.22	U	0.21	U
CLP 3/90												
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	-		-		-		-		-		-	
1,3-Dichlorobenzene	-		-		-		-		-		-	
1,4-Dichlorobenzene	-		-		-		-		-		-	
2,2'-Oxybis(1-Chloropropane)	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRT, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	ER12		ER13		ER14		ER15		ER16		ER17	
		PC-ER12		PC-ER13		PC-ER14		PC-ER15		PC-ER16		PC-ER17	
		08/17/93	08/24/93	08/26/93	08/26/93	08/26/93	08/26/93	08/26/93	08/26/93	08/26/93	09/12/93	09/12/93	09/12/93
RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
2,4-Dimethylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloroaniline	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Methylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Nitrophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Acenaphthene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Acenaphthylene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Anthracene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)anthracene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)pyrene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(b)fluoranthene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(ghi)perylene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(k)fluoranthene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Butyl benzyl phthalate	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Carbazole	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Chrysene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-butyl phthalate	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-octyl phthalate	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzo(a,h)anthracene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzofuran	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Diethyl phthalate	ug/l	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	ER12		ER13		ER14		ER15		ER16		ER17	
	PC-ER12		PC-ER13		PC-ER14		PC-ER15		PC-ER16		PC-ER17	
	08/17/93		08/24/93		08/26/93		08/26/93		08/26/93		09/12/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Dimethyl phthalate	ug/l	5	U	U	5	U	5	U	5	U	5	U
Fluoranthene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Fluorene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Hexachlorobenzene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Hexachloroethane	ug/l	5	U	U	5	U	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Isophorone	ug/l	5	U	U	5	U	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	ug/l	5	U	U	5	U	5	U	5	U	5	U
N-Nitrosodiphenylamine	ug/l	5	U	U	5	U	5	U	5	U	5	U
Naphthalene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Nitrobenzene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Pentachlorophenol	ug/l	20	U	U	20	U	20	U	20	U	20	U
Phenanthrene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Phenol	ug/l	5	U	U	5	U	5	U	5	U	5	U
Pyrene	ug/l	5	U	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	ug/l	5	U	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	ug/l	5	U	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	2	U	B	35	B	8	B	15	B	5	B
METALS												
Antimony	ug/l	35	U	U	35	U	35	U	35	U	35	U
Antimony, Dissolved	ug/l	-	UL	U	35	U	-	U	-	U	35	U
Arsenic	ug/l	4	U	U	4	U	4	U	4	U	4	U
Arsenic, Dissolved	ug/l	-	U	U	4	U	-	U	-	U	4	U
Beryllium	ug/l	1	U	U	1	U	1	U	1	U	1	U
Beryllium, Dissolved	ug/l	-	U	U	1	U	-	U	-	U	1	U
Cadmium	ug/l	3	U	U	3	U	3	U	3	U	3	U
Cadmium, Dissolved	ug/l	-	U	U	3	U	-	U	-	U	3	U
Chromium	ug/l	8	U	U	8	U	8	U	8	U	8	U
Chromium, Dissolved	ug/l	-	U	U	8	U	-	U	-	U	8	U
Copper	ug/l	4	U	U	4	U	4	U	4	U	4	U
Copper, Dissolved	ug/l	-	U	U	5.70	B	-	U	-	U	4	U
Lead	ug/l	2	U	U	2	U	2	U	2	U	2	U
Lead, Dissolved	ug/l	-	U	U	2	U	-	U	-	U	2	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	ER12		ER13		ER14		ER15		ER16		ER17	
	PC-ER12	08/17/93	PC-ER13	08/24/93	PC-ER14	08/26/93	PC-ER15	08/26/93	PC-ER16	08/26/93	PC-ER17	09/12/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	-	U	-	U	0.20	U	-	U	-	U	0.20	U
Nickel	18	U	18	U	18	U	18	U	18	U	18	U
Nickel, Dissolved	-	U	-	U	18	U	-	U	-	U	18	U
Selenium	3	U	3	U	3	U	3	U	3	U	3	U
Selenium, Dissolved	-	U	-	U	3	U	-	U	-	U	3	UL
Silver	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	-	U	-	U	4	U	-	U	-	U	4	U
Thallium	3	UL	3	UL	3	UL	3	U	3	U	3	U
Thallium, Dissolved	-	U	-	U	3	UL	-	U	-	U	3	UL
Zinc	4.30	U	6.50	0	5.80	OB	21.40	B	8.80	OB	8.50	OB
Zinc, Dissolved	-	U	-	U	16.80	0	-	U	-	U	5.30	0
TPH	0.30	U	1.10	U	0.25	U	0.25	U	0.50	U	0.70	U
Total Petroleum Hydrocarbons												

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

FB02
PC-FB02
07/29/93

FB01
PC-FB01
07/28/93

ER21
PC-ER21
09/15/93

ER20
PC-ER20
09/14/93

ER19
PC-ER19
09/13/93

ER18
PC-ER18
09/10/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

8010	1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	1,1,1-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	1,1,2,2-Tetrachloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
	1,1,2-Trichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
	1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
	1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
	1,2-Dichloroethylene	ug/l	-	U	-	U	-	U	-	U	-	U
	1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
	1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
	1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
	1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
	1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
	1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
	2-Butanone	ug/l	-	U	-	U	-	U	-	U	-	U
	2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
	2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
	2-Hexanone	ug/l	-	U	-	U	-	U	-	U	-	U
	2-Propanone	ug/l	-	U	-	U	-	U	-	U	-	U
	4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	4-Methyl-2-pentanone	ug/l	-	U	-	U	-	U	-	U	-	U
	Benzene	ug/l	-	U	-	U	-	U	-	U	-	U
	Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
	Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
	Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
	Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
	Carbon Disulfide	ug/l	-	U	-	U	-	U	-	U	-	U
	Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
	Chloroform	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
	Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

FB02
PC-FB02
07/29/93

FB01
PC-FB01
07/28/93

ER21
PC-ER21
09/15/93

ER20
PC-ER20
09/14/93

ER19
PC-ER19
09/13/93

ER18
PC-ER18
09/10/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Ethylbenzene	ug/l	-	U	-	U	-	U	-	U	-	U
Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	ug/l	0.30	B	0.77	B	0.30	B	0.60	B	0.14	B
Styrene	ug/l	-	U	-	U	-	U	-	U	-	U
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Toluene	ug/l	-	U	-	U	-	U	-	U	-	U
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U
Xylenes (TOTAL)	ug/l	-	U	-	U	-	U	-	U	-	U
8020	ug/l	0.38	B	0.15	U	0.20	U	0.15	U	0.15	U
1,2-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,2-Dimethylbenzene	ug/l	0.18	B	0.18	B	0.15	B	0.44	U	0.20	U
1,3-Dichlorobenzene	ug/l	-	U	0.04	U	0.06	U	-	U	-	U
1,3-Dimethylbenzene	ug/l	0.50	U	-	U	-	U	0.50	U	0.50	U
1,3/1,4-Dimethylbenzene	ug/l	0.15	U	0.59	U	0.37	B	0.15	U	0.15	U
1,4-Dichlorobenzene	ug/l	-	U	0.04	U	0.06	U	-	U	-	U
1,4-Dimethylbenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Benzene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Chlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Ethylbenzene	ug/l	5	U	5	U	5	U	5	U	5	U
Methyl-t-Butyl Ether	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Styrene	ug/l	0.39	B	0.22	B	0.24	B	0.25	B	0.25	B
Toluene	ug/l	-	U	-	U	-	U	-	U	-	U
CLP 3/90	ug/l	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	ug/l	-	U	-	U	-	U	-	U	-	U
1,2-Dichlorobenzene	ug/l	-	U	-	U	-	U	-	U	-	U
1,3-Dichlorobenzene	ug/l	-	U	-	U	-	U	-	U	-	U
1,4-Dichlorobenzene	ug/l	-	U	-	U	-	U	-	U	-	U
2,2'-Oxybis(1-Chloropropane)	ug/l	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	ug/l	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	ER18		ER19		ER20		ER21		FB01		FB02	
		PC-ER18		PC-ER19		PC-ER20		PC-ER21		PC-FB01		PC-FB02	
		09/10/93	09/10/93	09/13/93	09/13/93	09/14/93	09/14/93	09/15/93	09/15/93	07/28/93	07/28/93	07/29/93	07/29/93
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
2,4-Dimethylphenol	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
2,4-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	25	U	20	U
2,4-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
2-Chloronaphthalene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
2-Chlorophenol	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
2-Methyl-4,6-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	25	U	20	U
2-Methylnaphthalene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
2-Methylphenol	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
2-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	25	U	20	U
2-Nitrophenol	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
3,3'-Dichlorobenzidine	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
3-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	25	U	20	U
4-Bromophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
4-Chloroaniline	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
4-Chlorophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
4-Methylphenol	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
4-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	25	U	20	U
4-Nitrophenol	ug/l	20	U	20	U	20	U	20	U	25	U	20	U
Acenaphthene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Acenaphthylene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Anthracene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Benzo(a)anthracene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Benzo(b)pyrene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Benzo(b)fluoranthene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Benzo(ghi)perylene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Benzo(k)fluoranthene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Butyl benzyl phthalate	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Carbazole	ug/l	-	U	-	U	-	U	-	U	10	U	-	U
Chrysene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Di-n-butyl phthalate	ug/l	5	U	5	U	5	U	5	U	1	U	0.50	U
Di-n-octyl phthalate	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Dibenzo(a,h)anthracene	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Dibenzofuran	ug/l	5	U	5	U	5	U	5	U	10	U	5	U
Diethyl phthalate	ug/l	5	U	5	U	0.90	U	5	U	10	U	5	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	ER18		ER19		ER20		ER21		FB01		FB02	
	PC-ER18		PC-ER19		PC-ER20		PC-ER21		PC-FB01		PC-FB02	
	09/10/93		09/13/93		09/14/93		09/15/93		07/28/93		07/29/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Dimethyl phthalate	5	U	5	U	5	U	5	U	10	U	5	U
Fluoranthene	5	U	5	U	5	U	5	U	10	U	5	U
Fluorene	5	U	5	U	5	U	5	U	10	U	5	U
Hexachlorobenzene	5	U	5	U	5	U	5	U	10	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U	5	U	10	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U	5	U	10	U	5	U
Hexachloroethane	5	U	5	U	5	U	5	U	10	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U	5	U	10	U	5	U
Isophorone	5	U	5	U	5	U	5	U	10	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U	5	U	10	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U	5	U	10	U	5	U
Naphthalene	5	U	5	U	5	U	5	U	10	U	5	U
Nitrobenzene	5	U	5	U	5	U	5	U	10	U	5	U
Pentachlorophenol	20	U	20	U	20	U	20	U	25	U	20	U
Phenanthrene	5	U	5	U	5	U	5	U	10	U	5	U
Phenol	5	U	0.70	U	2	U	5	U	10	U	5	U
Pyrene	5	U	5	U	5	U	5	U	10	U	5	U
bis(2-Chloroethoxy)methane	5	U	5	U	5	U	5	U	10	U	5	U
bis(2-Chloroethyl) ether	5	U	5	U	5	U	5	U	10	U	5	U
bis(2-Ethylhexyl)phthalate	10	B	14	B	5	B	4	B	17	U	3	U
METALS												
Antimony	35	U	45	U	45	U	45	U	35	U	40.40	B
Antimony, Dissolved	35	UL	-	U	35	U	35	U	-	U	-	U
Arsenic	4	U	4	U	4	U	4	U	4	U	4	U
Arsenic, Dissolved	4	UL	-	U	4	U	4	U	-	U	-	U
Beryllium	1	U	4	U	4	U	4	U	1	U	1	U
Beryllium, Dissolved	1	UL	-	U	1	U	1	U	-	U	-	U
Cadmium	3	U	5	U	5	U	5	U	3	U	3	U
Cadmium, Dissolved	3	UL	-	U	3	U	3	U	-	U	-	U
Chromium	8	U	10	U	10	U	10	U	8	U	8	U
Chromium, Dissolved	8	UL	-	U	8	U	8	U	-	OB	-	U
Copper	4	U	15	U	15	U	15	U	4.10	U	120	U
Copper, Dissolved	4	UL	-	U	4	U	4	U	-	U	-	U
Lead	2	U	2	U	2	U	2	U	2	U	8.40	U
Lead, Dissolved	2	UL	-	U	2	U	2	U	-	U	-	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		ER18		ER19		ER20		ER21		FB01		FB02	
SAMPLE ID:		PC-ER18		PC-ER19		PC-ER20		PC-ER21		PC-FB01		PC-FB02	
COLLECTION DATE:		09/10/93		09/13/93		09/14/93		09/15/93		07/28/93		07/29/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Mercury	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	ug/l	0.20	UL	-	U	0.20	U	0.20	U	-	U	-	U
Nickel	ug/l	18	U	35	U	35	U	35	U	18	U	18	U
Nickel, Dissolved	ug/l	18	UL	-	U	18	U	18	U	-	U	-	U
Selenium	ug/l	3	U	3	UL	3	UL	3	UL	3	U	3	UL
Selenium, Dissolved	ug/l	3	UL	-	R	R	R	-	U	3	U	3	UL
Silver	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	ug/l	4	UL	-	U	4	U	4	U	-	U	-	U
Thallium	ug/l	3	UL	3	UL	3	UL	3	UL	3	U	3	UL
Thallium, Dissolved	ug/l	3	UL	-	U	3	U	3	U	-	U	-	U
Zinc	ug/l	6.80	OB	8.30	0	8.90	0	5.40	0	0	U	859	-
Zinc, Dissolved	ug/l	4	UL	-	U	4	U	4	U	-	U	-	U
TPH	mg/l	0.25	U	0.25	U	0.25	U	0.80	U	0.25	U	0.25	U
Total Petroleum Hydrocarbons	mg/l	0.25	U	0.25	U	0.25	U	0.80	U	0.25	U	0.25	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

TB01
PC-TB01
07/28/93

FB07
PC-FB07
09/10/93

FB06
PC-FB06
08/11/93

FB05
PC-FB05
08/23/93

FB04
PC-FB04
08/23/93

FB03
PC-FB03
08/10/93

UNITS:

RESULT QUAL

RESULT QUAL

RESULT QUAL

RESULT QUAL

RESULT QUAL

RESULT QUAL

RESULT QUAL

RESULT QUAL

RESULT QUAL

8010

1,1,1,2-Tetrachloroethane

1,1,1-Trichloroethane

1,1,2,2-Tetrachloroethane

1,1,2-Trichloroethane

1,1-Dichloroethane

1,1-Dichloroethylene

1,2,3-Trichloropropane

1,2-Dibromochloroethane

1,2-Dichlorobenzene

1,2-Dichloroethane

1,2-Dichloroethylene

1,2-Dichloropropane

1,2-trans-Dichloroethylene

1,3-Dichlorobenzene

1,3-cis-Dichloropropylene

1,3-trans-Dichloropropylene

1,4-Dichlorobenzene

2-Butanone

2-Chloroethylvinyl ether

2-Chlorotoluene

2-Hexanone

2-Propanone

4-Chlorotoluene

4-Methyl-2-pentanone

Benzene

Bromobenzene

Bromochloromethane

Bromodichloromethane

Bromoform

Carbon Disulfide

Carbon Tetrachloride

Chlorobenzene

Chloroethane

Chloroform

Dibromochloromethane

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	FB03 PC-FB03 08/10/93	FB04 PC-FB04 08/23/93	FB05 PC-FB05 08/23/93	FB06 PC-FB06 08/11/93	FB07 PC-FB07 09/10/93	TB01 PC-TB01 07/28/93
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:						
Dibromomethane	0.40	U	0.40	U	0.40	U
Ethylbenzene	-	-	-	-	-	-
Methyl bromide	0.45	U	0.45	U	0.45	U
Methyl chloride	0.50	U	0.50	U	0.50	U
Methylene chloride	0.29	U	0.30	U	0.58	B
Styrene	-	-	-	-	-	-
Tetrachloroethylene	0.30	U	0.30	U	0.30	U
Toluene	-	-	-	-	-	-
Trichloroethylene	0.30	U	0.30	U	0.30	U
Vinyl chloride	0.55	U	0.55	U	0.55	U
Xylenes (TOTAL)	-	-	-	-	-	-
8020						
1,2-Dichlorobenzene	0.24	B	0.68	U	0.40	J
1,2-Dimethylbenzene	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	0.20	U	0.20	U	0.34	U
1,3-Dimethylbenzene	-	-	-	-	-	-
1,3/1,4-Dimethylbenzene	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.15	U	0.15	U	0.15	U
1,4-Dimethylbenzene	-	-	-	-	-	-
Benzene	0.35	U	0.35	U	0.35	U
Chlorobenzene	0.25	U	0.25	U	0.25	U
Ethylbenzene	0.20	U	0.10	U	0.20	U
Methyl-t-Butyl Ether	5	U	5	U	5	U
Styrene	0.25	U	0.25	U	0.25	U
Toluene	0.14	B	0.11	B	0.12	U
CLP 3/90						
1,2,4-Trichlorobenzene	5	UL	5	U	5	U
1,2-Dichlorobenzene	-	-	-	-	-	-
1,3-Dichlorobenzene	-	-	-	-	-	-
1,4-Dichlorobenzene	-	-	-	-	-	-
2,2'-Oxybis(1-Chloropropane)	5	U	5	U	5	U
2,4,5-Trichlorophenol	20	U	R	20	U	-
2,4,6-Trichlorophenol	5	UL	R	5	U	-
2,4-Dichlorophenol	5	U	5	U	5	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	FB03 PC-FB03 08/10/93	FB04 PC-FB04 08/23/93	FB05 PC-FB05 08/23/93	FB06 PC-FB06 08/11/93	FB07 PC-FB07 09/10/93	TB01 PC-TB01 07/28/93
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
2,4-Dimethylphenol	5	UL	5	5	5	-
2,4-Dinitrophenol	20	U	20	20	20	-
2,4-Dinitrotoluene	5	U	5	5	5	-
2,6-Dinitrotoluene	5	U	5	5	5	-
2-Chloronaphthalene	5	U	5	5	5	-
2-Chlorophenol	5	U	5	5	5	-
2-Methyl-4,6-Dinitrophenol	20	UL	20	20	20	-
2-Methylnaphthalene	5	U	5	5	5	-
2-Methylphenol	5	U	5	5	5	-
2-Nitroaniline	20	U	20	20	20	-
2-Nitrophenol	5	UL	5	5	5	-
3,3'-Dichlorobenzidine	5	U	5	5	5	-
3-Nitroaniline	20	U	20	20	20	-
4-Bromophenyl phenyl ether	5	U	5	5	5	-
4-Chloro-3-methyl phenol	5	UL	5	5	5	-
4-Chloroaniline	5	U	5	5	5	-
4-Chlorophenyl phenyl ether	5	U	5	5	5	-
4-Methylphenol	5	U	5	5	5	-
4-Nitroaniline	20	U	20	20	20	-
4-Nitrophenol	20	UL	20	20	20	-
Acenaphthene	5	U	5	5	5	-
Acenaphthylene	5	U	5	5	5	-
Anthracene	5	U	5	5	5	-
Benzo(a)anthracene	5	U	5	5	5	-
Benzo(b)pyrene	5	U	5	5	5	-
Benzo(b)fluoranthene	5	U	5	5	5	-
Benzo(ghi)perylene	5	U	5	5	5	-
Benzo(k)fluoranthene	5	U	5	5	5	-
Butyl benzyl phthalate	5	U	5	5	5	-
Carbazole	-	U	-	-	-	-
Chrysene	5	U	5	5	5	-
Di-n-butyl phthalate	5	U	5	5	5	-
Di-n-octyl phthalate	5	U	5	5	5	-
Dibenzo(a,h)anthracene	5	U	5	5	5	-
Dibenzofuran	5	U	5	5	5	-
Diethyl phthalate	5	U	5	5	5	-

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	FB03 PC-FB03 08/10/93	FB04 PC-FB04 08/23/93	FB05 PC-FB05 08/23/93	FB06 PC-FB06 08/11/93	FB07 PC-FB07 09/10/93	TB01 PC-TB01 07/28/93
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Dimethyl phthalate	ug/l					
Fluoranthene	ug/l	5	U	5	U	U
Fluorene	ug/l	5	U	5	U	U
Hexachlorobenzene	ug/l	5	U	5	U	U
Hexachlorobutadiene	ug/l	5	U	5	U	U
Hexachlorocyclopentadiene	ug/l	5	U	5	U	U
Hexachloroethane	ug/l	5	U	5	U	U
Indeno(1,2,3-c,d)pyrene	ug/l	5	U	5	U	U
Isophorone	ug/l	5	U	5	U	U
N-Nitrosodi-N-Propylamine	ug/l	5	U	5	U	U
N-Nitrosodiphenylamine	ug/l	5	U	5	U	U
Naphthalene	ug/l	5	U	5	U	U
Nitrobenzene	ug/l	5	U	5	U	U
Pentachlorophenol	ug/l	20	UL	20	U	U
Phenanthrene	ug/l	5	U	5	U	U
Phenol	ug/l	5	UL	5	U	U
Pyrene	ug/l	5	U	5	U	U
bis(2-Chloroethoxy)methane	ug/l	5	U	5	U	U
bis(2-Chloroethyl) ether	ug/l	5	U	5	U	U
bis(2-Ethylhexyl)phthalate	ug/l	5	U	11	5	U
METALS						
Antimony	ug/l	35	U	35	U	U
Antimony, Dissolved	ug/l	-		-	-	-
Arsenic	ug/l	12.10	4	4	U	U
Arsenic, Dissolved	ug/l	-		-	-	-
Beryllium	ug/l	1	U	1	U	U
Beryllium, Dissolved	ug/l	-		-	-	-
Cadmium	ug/l	3	U	3	U	U
Cadmium, Dissolved	ug/l	-		-	-	-
Chromium	ug/l	8	U	8	U	U
Chromium, Dissolved	ug/l	-		-	-	-
Copper	ug/l	7.90	OB	4	OB	U
Copper, Dissolved	ug/l	-		-	-	-
Lead	ug/l	2	U	2	U	U
Lead, Dissolved	ug/l	-		-	-	-

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	FB03 PC-FB03 08/10/93		FB04 PC-FB04 08/23/93		FB05 PC-FB05 08/23/93		FB06 PC-FB06 08/11/93		FB07 PC-FB07 09/10/93		TB01 PC-TB01 07/28/93	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:												
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	-	-
Mercury, Dissolved	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Nickel	18	U	18	U	18	U	18	U	18	U	-	-
Nickel, Dissolved	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Selenium	3	U	3	U	3	U	3	U	8.10	B	-	-
Selenium, Dissolved	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Silver	4	U	4	U	4	U	4	U	4	U	-	-
Silver, Dissolved	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Thallium	3	UL	3	UL	3	UL	3	UL	3	UL	-	-
Thallium, Dissolved	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
Zinc	13.30	0	5.30	0	43.60	-	5.30	-	4	U	-	-
Zinc, Dissolved	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
TPH	1.60		1.10		0.70		0.25		3.10		-	-
Total Petroleum Hydrocarbons	mg/l		mg/l		mg/l		mg/l		mg/l		mg/l	

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	TB02		TB03		TB04		TB05		TB06		TB07	
		PC-TB02		PC-TB03		PC-TB04		PC-TB05		PC-TB06		PC-TB07	
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1-Trichloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2,2-Tetrachloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,2-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloroethylene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-cis-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,3-trans-Dichloropropylene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,4-Dichlorobenzene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
2-Butanone	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chloroethylvinyl ether	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
2-Chlorotoluene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
2-Hexanone	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
2-Propanone	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
4-Chlorotoluene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
4-Methyl-2-pentanone	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Benzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromobenzene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromochloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromodichloromethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromoform	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Carbon Disulfide	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroform	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromochloromethane	ug/l	-	U	-	U	-	U	-	U	-	U	-	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	TB02 PC-TB02 07/27/93		TB03 PC-TB03 07/29/93		TB04 PC-TB04 07/31/93		TB05 PC-TB05 08/01/93		TB06 PC-TB06 08/09/93		TB07 PC-TB07 08/10/93	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:												
Dibromomethane	ug/l	0.40	U	U	0.40	U	0.40	U	0.40	U	0.40	U
Ethylbenzene	ug/l	-	U	U	-	U	-	U	-	U	-	U
Methyl bromide	ug/l	0.45	U	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	ug/l	0.26	U	U	0.35	U	0.39	U	0.58	U	0.41	U
Styrene	ug/l	-	U	U	-	U	-	U	-	U	-	U
Tetrachloroethylene	ug/l	0.30	U	U	0.30	U	0.30	U	0.30	U	0.30	U
Toluene	ug/l	-	U	U	-	U	-	U	-	U	-	U
Trichloroethylene	ug/l	0.30	U	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	ug/l	0.55	U	U	0.55	U	0.55	U	0.55	U	0.55	U
Xylenes (TOTAL)	ug/l	-	U	U	-	U	-	U	-	U	-	U
8020	ug/l	0.15	U	U	0.15	U	0.15	U	0.56	U	0.15	U
1,2-Dichlorobenzene	ug/l	0.20	U	U	0.20	U	0.20	U	0.20	U	0.20	U
1,2-Dimethylbenzene	ug/l	0.09	B	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	ug/l	-	U	U	-	U	-	U	0.06	U	-	U
1,3-Dimethylbenzene	ug/l	0.50	U	U	0.50	U	0.50	U	-	U	0.50	U
1,3/1,4-Dimethylbenzene	ug/l	0.15	U	U	0.15	U	0.15	U	0.06	U	0.44	U
1,4-Dichlorobenzene	ug/l	-	U	U	-	U	-	U	0.06	U	-	U
1,4-Dimethylbenzene	ug/l	0.35	U	U	0.35	U	0.35	U	0.06	U	0.35	U
Benzene	ug/l	0.25	U	U	0.25	U	0.25	U	0.25	U	0.25	U
Chlorobenzene	ug/l	0.20	U	U	0.20	U	0.20	U	0.20	U	0.20	U
Ethylbenzene	ug/l	5	U	U	5	U	5	U	5	U	5	U
Methyl-t-Butyl Ether	ug/l	0.25	U	U	0.25	U	0.25	U	0.25	U	0.25	U
Styrene	ug/l	0.25	U	U	0.12	B	0.16	B	0.12	B	0.25	U
Toluene	ug/l	0.25	U	U	0.47	B	0.16	B	0.12	B	0.40	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	TB08		TB09		TB10		TB12		TB13		TB14	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	UJ	0.35	U	0.35	U	-	0.35	-	0.15
1,1,1-Trichloroethane	ug/l	0.35	U	UJ	0.35	U	0.35	U	0.35	U	0.40	U
1,1,2,2-Tetrachloroethane	ug/l	0.40	U	UJ	0.40	U	0.40	U	0.40	U	0.25	U
1,1,2-Trichloroethane	ug/l	0.25	U	UJ	0.25	U	0.25	U	0.25	U	0.35	U
1,1-Dichloroethane	ug/l	0.35	U	UJ	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	U	UJ	0.35	U	0.35	U	-	-	-	-
1,2,3-Trichloropropane	ug/l	0.35	U	UJ	0.35	U	0.35	U	-	-	-	-
1,2-Dibromoethane	ug/l	0.35	U	UJ	0.35	U	0.35	U	-	-	-	-
1,2-Dichlorobenzene	ug/l	0.30	U	UJ	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	UJ	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloroethylene	ug/l	-	U	UJ	-	U	-	U	-	U	-	U
1,2-Dichloropropane	ug/l	0.30	U	UJ	0.30	U	0.30	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	ug/l	0.30	U	UJ	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	ug/l	0.20	U	UJ	0.20	U	0.20	U	0.20	U	0.20	U
1,3-cis-Dichloropropylene	ug/l	0.30	U	UJ	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	ug/l	0.25	U	UJ	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	ug/l	0.20	U	UJ	0.20	U	0.20	U	0.20	U	0.20	U
2-Butanone	ug/l	-	U	UJ	-	U	-	U	-	U	-	U
2-Chloroethylvinyl ether	ug/l	0.40	U	UJ	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	ug/l	0.25	U	UJ	0.25	U	0.25	U	-	-	-	-
2-Hexanone	ug/l	-	U	UJ	-	U	-	U	-	-	-	-
2-Propanone	ug/l	-	U	UJ	-	U	-	U	-	-	-	-
4-Chlorotoluene	ug/l	0.35	U	UJ	0.35	U	0.35	U	-	-	-	-
4-Methyl-2-pentanone	ug/l	-	U	UJ	-	U	-	U	-	-	-	-
Benzene	ug/l	-	U	UJ	-	U	-	U	-	-	-	-
Bromobenzene	ug/l	0.85	U	UJ	0.85	U	0.85	U	-	-	-	-
Bromochloromethane	ug/l	0.25	U	UJ	0.25	U	0.25	U	-	-	-	-
Bromodichloromethane	ug/l	0.40	U	UJ	0.40	U	0.40	U	0.40	U	0.40	U
Bromoforn	ug/l	0.50	U	UJ	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Disulfide	ug/l	-	U	UJ	-	U	-	U	-	-	-	-
Carbon Tetrachloride	ug/l	0.35	U	UJ	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	U	UJ	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	U	UJ	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	ug/l	0.35	U	UJ	0.35	U	0.35	U	0.35	U	0.35	U
Dibromochloromethane	ug/l	0.30	U	UJ	0.30	U	0.30	U	0.30	U	0.30	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

TB08
PC-TB08
08/11/93

TB09
PC-TB09
08/12/93

TB10
PC-TB10
08/13/93

TB12
PC-TB12
08/15/93

TB13
PC-TB13
08/17/93

TB14
PC-TB14
08/17/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

Dibromomethane	ug/l	0.40	U	0.40	UJ	0.40	U	0.40	U	-	-
Ethylbenzene	ug/l	-	U	-	UJ	0.45	U	0.45	U	0.45	U
Methyl bromide	ug/l	0.45	U	0.45	UJ	0.50	U	0.50	U	0.50	U
Methyl chloride	ug/l	0.50	U	0.50	UJ	0.05	B	0.09	B	0.74	B
Methylene chloride	ug/l	0.17	B	0.24	B	-	-	-	-	-	-
Styrene	ug/l	-	U	-	UJ	0.06	U	0.30	U	0.30	U
Tetrachloroethylene	ug/l	0.30	U	0.30	UJ	-	-	-	-	-	-
Toluene	ug/l	-	U	-	UJ	0.30	U	0.30	U	0.30	U
Trichloroethylene	ug/l	0.30	U	0.30	UJ	0.55	U	0.55	U	0.55	U
Vinyl chloride	ug/l	0.55	U	0.55	UJ	-	-	-	-	-	-
Xylenes (TOTAL)	ug/l	-	-	-	-	-	-	-	-	-	-
8020	ug/l	0.15	U	0.15	U	0.15	U	0.15	UJ	0.15	U
1,2-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,2-Dimethylbenzene	ug/l	0.20	U	0.08	-	0.05	-	-	-	-	-
1,3-Dichlorobenzene	ug/l	0.05	-	-	-	-	-	-	-	-	-
1,3-Dimethylbenzene	ug/l	-	-	0.50	U	-	-	0.50	U	-	-
1,3/1,4-Dimethylbenzene	ug/l	0.15	U	0.15	U	0.15	U	0.15	UJ	0.15	U
1,4-Dichlorobenzene	ug/l	0.05	-	0.15	U	0.05	-	-	-	-	-
1,4-Dimethylbenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.09	B
Benzene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Chlorobenzene	ug/l	0.20	U	0.20	U	0.08	U	0.20	U	0.20	U
Ethylbenzene	ug/l	5	U	5	U	5	U	5	UJ	-	-
Methyl-t-Butyl Ether	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	-	-
Styrene	ug/l	0.19	B	0.22	U	0.22	B	0.12	L	0.31	B
Toluene	ug/l	-	-	-	-	-	-	-	-	-	-

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	TB15 PC-TB15 08/23/93	TB16 PC-TB16 08/24/93	TB17 PC-TB17 08/24/93	TB18 PC-TB18 08/26/93	TB19 PC-TB19 08/27/93	TB20 PC-TB20 08/29/93
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010						
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35
1,1,1-Trichloroethane	ug/l	0.35	U	0.35	U	0.35
1,1,2,2-Tetrachloroethane	ug/l	0.40	U	0.40	U	0.40
1,1,2-Trichloroethane	ug/l	0.25	U	0.25	U	0.25
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25
1,2-Dichloroethylene	ug/l	-	U	-	U	-
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30
1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20
2-Butanone	ug/l	-	U	-	U	-
2-Chloroethyvinyl ether	ug/l	0.40	U	0.40	U	0.40
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25
2-Hexanone	ug/l	-	U	-	U	-
2-Propanone	ug/l	-	U	-	U	-
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35
4-Methyl-2-pentanone	ug/l	-	U	-	U	-
Benzene	ug/l	-	U	-	U	-
Bromobenzene	ug/l	0.85	U	0.85	U	0.85
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40
Bromoform	ug/l	0.50	U	0.50	U	0.50
Carbon Disulfide	ug/l	-	U	-	U	-
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35
Chloroethane	ug/l	0.50	U	0.50	U	0.50
Chloroform	ug/l	0.35	U	0.35	U	0.35
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

	UNITS:	TB15		TB16		TB17		TB18		TB19		TB20	
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
		PC-TB15	08/23/93	PC-TB16	08/24/93	PC-TB17	08/24/93	PC-TB18	08/26/93	PC-TB19	08/27/93	PC-TB20	08/29/93
Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Ethylbenzene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	ug/l	0.35	U	0.34	U	0.67	B	0.42	B	0.26	B	0.27	J
Styrene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Toluene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U
Xylenes (TOTAL)	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
8020	ug/l	0.35	U	3.10	U	1.70	B	0.15	U	0.15	U	0.15	U
1,2-Dichlorobenzene	ug/l	0.10	J	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,2-Dimethylbenzene	ug/l	0.10	U	0.20	U	0.20	U	0.58	U	0.20	U	0.20	U
1,3-Dichlorobenzene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
1,3-Dimethylbenzene	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,3/1,4-Dimethylbenzene	ug/l	0.26	B	0.15	U	0.15	U	0.15	U	0.50	B	0.15	U
1,4-Dichlorobenzene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
1,4-Dimethylbenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Benzene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Chlorobenzene	ug/l	0.07	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Ethylbenzene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Methyl-t-Butyl Ether	ug/l	0.08	J	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Styrene	ug/l	0.24	B	0.15	B	0.21	B	0.25	U	0.23	B	0.25	U
Toluene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	TB22		TB23		TB24		TB25		TB26		TB27	
	PC-TB22		PC-TB23		PC-TB24		PC-TB25		PC-TB26		PC-TB27	
	09/08/93	09/09/93	09/09/93	09/09/93	09/10/93	09/10/93	09/13/93	09/13/93	09/14/93	09/15/93	09/15/93	09/15/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
1,1,1-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
1,1,2,2-Tetrachloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40
1,1,2-Trichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25
1,2-Dichloroethylene	ug/l	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30
1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20
2-Butanone	ug/l	-	-	-	-	-	-	-	-	-	-	-
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25
2-Hexanone	ug/l	-	-	-	-	-	-	-	-	-	-	-
2-Propanone	ug/l	-	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
4-Methyl-2-pentanone	ug/l	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/l	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40
Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50
Carbon Disulfide	ug/l	-	-	-	-	-	-	-	-	-	-	-
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50
Chloroform	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	TB22 PC-TB22 09/08/93	TB23 PC-TB23 09/09/93	TB24 PC-TB24 09/10/93	TB25 PC-TB25 09/13/93	TB26 PC-TB26 09/14/93	TB27 PC-TB27 09/15/93
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:						
Dibromomethane	ug/l	0.40	U	0.40	U	0.40
Ethylbenzene	ug/l	-	U	-	U	-
Methyl bromide	ug/l	0.45	U	0.45	U	0.45
Methyl chloride	ug/l	0.50	U	0.50	U	0.50
Methylene chloride	ug/l	0.52	B	0.36	B	0.18
Styrene	ug/l	-	U	-	U	-
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30
Toluene	ug/l	-	U	-	U	-
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55
Xylenes (TOTAL)	ug/l	-	U	-	U	-
8020						
1,2-Dichlorobenzene	ug/l	0.51	B	0.15	U	0.15
1,2-Dimethylbenzene	ug/l	0.20	U	0.20	U	0.20
1,3-Dichlorobenzene	ug/l	0.30	B	0.20	U	0.20
1,3-Dimethylbenzene	ug/l	0.05	U	0.06	U	-
1,3/1,4-Dimethylbenzene	ug/l	-	U	-	U	0.50
1,4-Dichlorobenzene	ug/l	0.27	B	0.32	B	0.30
1,4-Dimethylbenzene	ug/l	0.05	U	0.06	U	-
Benzene	ug/l	0.35	U	0.35	U	0.35
Chlorobenzene	ug/l	0.25	U	0.25	U	0.25
Ethylbenzene	ug/l	0.20	U	0.20	U	0.10
Methyl-t-Butyl Ether	ug/l	5	U	5	U	5
Styrene	ug/l	0.25	U	0.25	U	0.25
Toluene	ug/l	0.19	U	0.14	B	0.16

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: TB28
SAMPLE ID: PC-TB28
COLLECTION DATE: 09/15/93

UNITS:	RESULT	QUAL
8010		
1,1,1,2-Tetrachloroethane	ug/l	0.35 U
1,1,1-Trichloroethane	ug/l	0.35 U
1,1,2,2-Tetrachloroethane	ug/l	0.40 U
1,1,2-Trichloroethane	ug/l	0.25 U
1,1-Dichloroethane	ug/l	0.35 U
1,1-Dichloroethylene	ug/l	0.35 U
1,2,3-Trichloropropane	ug/l	0.35 U
1,2-Dibromoethane	ug/l	0.35 U
1,2-Dichlorobenzene	ug/l	0.30 U
1,2-Dichloroethane	ug/l	0.25 U
1,2-Dichloroethylene	ug/l	-
1,2-Dichloropropane	ug/l	0.30 U
1,2-trans-Dichloroethylene	ug/l	0.30 U
1,3-Dichlorobenzene	ug/l	0.20 U
1,3-cis-Dichloropropylene	ug/l	0.30 U
1,3-trans-Dichloropropylene	ug/l	0.25 U
1,4-Dichlorobenzene	ug/l	0.20 U
2-Butanone	ug/l	-
2-Chloroethylvinyl ether	ug/l	0.40 U
2-Chlorotoluene	ug/l	0.25 U
2-Hexanone	ug/l	-
2-Propanone	ug/l	-
4-Chlorotoluene	ug/l	0.35 U
4-Methyl-2-pentanone	ug/l	-
Benzene	ug/l	-
Bromobenzene	ug/l	0.85 U
Bromochloromethane	ug/l	0.25 U
Bromodichloromethane	ug/l	0.40 U
Bromoform	ug/l	0.50 U
Carbon Disulfide	ug/l	-
Carbon Tetrachloride	ug/l	0.35 U
Chlorobenzene	ug/l	0.35 U
Chloroethane	ug/l	0.50 U
Chloroform	ug/l	0.35 U
Dibromochloromethane	ug/l	0.30 U

Appendix L - QC Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: TB28
SAMPLE ID: PC-TB28
COLLECTION DATE: 09/15/93

	UNITS:	RESULT	QUAL
Dibromomethane	ug/l	0.40	U
Ethylbenzene	ug/l	-	
Methyl bromide	ug/l	0.45	U
Methyl chloride	ug/l	0.50	U
Methylene chloride	ug/l	0.67	B
Styrene	ug/l	-	
Tetrachloroethylene	ug/l	0.30	U
Toluene	ug/l	-	
Trichloroethylene	ug/l	0.30	U
Vinyl chloride	ug/l	0.55	U
Xylenes (TOTAL)	ug/l	-	
8020			
1,2-Dichlorobenzene	ug/l	0.15	UJ
1,2-Dimethylbenzene	ug/l	0.20	UJ
1,3-Dichlorobenzene	ug/l	0.58	B
1,3-Dimethylbenzene	ug/l	-	
1,3/1,4-Dimethylbenzene	ug/l	0.50	UJ
1,4-Dichlorobenzene	ug/l	0.15	UJ
1,4-Dimethylbenzene	ug/l	-	
Benzene	ug/l	0.35	UJ
Chlorobenzene	ug/l	0.25	UJ
Ethylbenzene	ug/l	0.20	UJ
Methyl-t-Butyl Ether	ug/l	5	UJ
Styrene	ug/l	0.25	UJ
Toluene	ug/l	0.25	UJ

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB1 SB2 SB4 SB20 SB5 SB6
SAMPLE ID: PC-BG1-SB1-SS00-01 PC-BG1-SB2-SS00-01 PC-P1-SB4-SS00-01 PC-P1-SB20-SS00-02 PC-P1-SB5-SS00-02 PC-P1-SB6-SS00-02
COLLECTION DATE: 08/09/93 08/15/93 08/24/93 08/24/93 08/24/93 08/24/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg	0.96	UJ	1.20	U	0.98	U	1	UJ	0.93	UJ	0.97	U
1,1,1,2-Tetrachloroethane	0.07	B	0.05	B	0.26	B	0.36	B	2.80	UJ	0.05	B
1,1,1-Trichloroethane	0.64	UJ	0.77	U	0.65	U	0.70	UJ	0.62	UJ	0.65	U
1,1,2,2-Tetrachloroethane	0.90	UJ	1.10	U	0.92	U	0.99	UJ	0.88	UJ	0.91	U
1,1,2-Trichloroethane	0.80	UJ	0.96	U	0.82	U	0.87	UJ	0.77	UJ	0.81	U
1,1-Dichloroethane	0.90	UJ	1.10	U	0.92	U	0.99	UJ	0.88	UJ	0.91	U
1,1-Dichloroethylene	0.96	UJ	1.20	U	0.98	U	1	UJ	0.93	UJ	0.97	U
1,2,3-Trichloropropane	1.40	UJ	1.70	U	1.40	U	1.50	UJ	1.30	UJ	1.40	U
1,2-Dibromoethane	1.50	UJ	1.80	U	1.50	U	1.60	U	1.40	U	1.50	U
1,2-Dichlorobenzene	0.69	UJ	0.83	U	0.71	U	0.76	UJ	0.67	UJ	0.70	U
1,2-Dichloroethane	0.69	UJ	0.83	U	0.71	U	0.76	UJ	0.67	UJ	0.70	U
1,2-Dichloropropane	1.20	UJ	1.40	U	1.20	U	1.30	UJ	1.10	UJ	1.20	U
1,2-trans-Dichloroethylene	1.20	UJ	1.40	U	1.20	U	1.30	U	1.10	U	1.20	U
1,3-Dichlorobenzene	1	UJ	1.20	U	1	U	1.10	UJ	0.98	UJ	1	U
1,3-cis-Dichloropropylene	0.90	UJ	1.10	U	0.92	U	0.99	UJ	0.88	UJ	0.91	U
1,3-trans-Dichloropropylene	1.50	UJ	1.80	U	1.50	U	1.60	U	1.40	U	1.50	U
1,4-Dichlorobenzene	1.20	UJ	1.40	U	1.20	U	1.30	UJ	1.10	UJ	1.20	U
2-Chloroethylvinyl ether	1.10	UJ	1.30	U	1.10	U	1.20	U	1	U	1.10	U
2-Chlorotoluene	1.20	UJ	1.40	U	1.20	U	1.30	U	1.10	U	1.20	U
4-Chlorotoluene	0.80	UJ	0.96	U	0.82	U	0.87	U	0.77	U	0.81	U
Bromobenzene	0.96	UJ	1.20	U	0.98	U	1	UJ	0.93	UJ	0.97	U
Bromochloromethane	1.10	UJ	1.30	U	1.10	U	1.20	UJ	1	UJ	1.10	U
Bromodichloromethane	0.96	UJ	1.20	U	0.98	U	1	UJ	0.93	UJ	0.97	U
Bromoform	0.69	UJ	0.83	U	0.71	U	0.76	UJ	0.67	UJ	0.70	U
Carbon Tetrachloride	0.96	UJ	1.20	U	0.98	U	1	U	0.93	U	0.97	U
Chlorobenzene	2.80	UJ	3.30	U	2.80	U	3	UJ	2.70	UJ	2.80	U
Chloroethane	1	B	0.79	B	0.41	B	0.63	B	0.70	B	0.61	B
Chloroform	0.85	UJ	1	U	0.87	U	0.93	UJ	0.82	UJ	0.86	U
Dibromochloromethane	0.96	UJ	1.20	U	0.98	U	1	UJ	0.93	UJ	0.97	U
Dibromomethane	3	UJ	3.60	U	3	U	3.30	UJ	2.90	UJ	3	U
Methyl bromide	2.70	UJ	3.20	U	2.70	U	2.90	UJ	2.60	UJ	2.70	U
Methyl chloride	3	B	3.40	B	1.80	B	5.30	J	4.90	B	5.90	B
Methylene chloride	0.85	UJ	1	U	0.87	U	0.93	UJ	0.82	UJ	0.86	U
Tetrachloroethylene	0.85	UJ	1	U	0.87	U	0.93	UJ	0.82	UJ	0.86	U
Trichloroethylene	2.80	UJ	3.30	U	2.80	U	3	UJ	2.70	UJ	2.80	U
Vinyl chloride												

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB1		SB2		SB4		SB20		SB5		SB6		
	PC-BG1-SB1-SS00-01		PC-BG1-SB2-SS00-01		PC-P1-SB4-SS00-01		PC-P1-SB20-SS00-02		PC-P1-SB5-SS00-02		PC-P1-SB6-SS00-02		
	08/09/93		08/15/93		08/24/93		08/24/93		08/24/93		08/24/93		
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
8020													
1,2-Dichlorobenzene	ug/kg	1.50	UJ	1.80	U	1.50	U	1.60	U	1.40	U	0.08	U
1,2-Dimethylbenzene	ug/kg	1.30	UJ	1.50	U	1.30	U	0.16	B	1.20	U	0.25	B
1,3-Dichlorobenzene	ug/kg	1.90	UJ	2.30	U	2	U	2.10	U	0.45	B	1.90	U
1,3/1,4-Dimethylbenzene	ug/kg	3.40	UJ	4.10	U	3.50	U	3.70	U	3.30	U	3.40	U
1,4-Dichlorobenzene	ug/kg	1.90	UJ	2.30	U	2	U	2.10	U	1.90	U	0.11	U
Benzene	ug/kg	1.50	UJ	1.80	U	1.50	U	1.60	U	1.40	U	1.50	U
Chlorobenzene	ug/kg	1.90	UJ	2.30	U	2	U	2.10	U	1.90	U	1.90	U
Ethylbenzene	ug/kg	1.90	UJ	2.30	U	2	U	2.10	U	1.90	U	1.90	U
Methyl-t-Butyl Ether	ug/kg	12	UJ	14	U	12	U	13	U	11	U	12	U
Styrene	ug/kg	1.60	UJ	1.90	U	1.60	U	1.70	U	1.50	U	1.60	U
Toluene	ug/kg	5.60	UJ	0.25	B	5.80	U	0.17	B	0.22	B	0.16	B
CLP 3/90													
1,2,4-Trichlorobenzene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
1,2-Dichlorobenzene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
1,3-Dichlorobenzene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
1,4-Dichlorobenzene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2,4,5-Trichlorophenol	ug/kg	840	U	1000	U	870	U	930	U	820	U	860	U
2,4,6-Trichlorophenol	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2,4-Dichlorophenol	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2,4-Dimethylphenol	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2,4-Dinitrophenol	ug/kg	840	U	1000	U	870	U	930	U	820	U	860	U
2,4-Dinitrotoluene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2,6-Dinitrotoluene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2-Chloronaphthalene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2-Chlorophenol	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2-Methyl-4,6-Dinitrophenol	ug/kg	840	U	1000	U	870	U	930	U	820	U	860	U
2-Methylnaphthalene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2-Methylphenol	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
2-Nitroaniline	ug/kg	840	U	1000	U	870	U	930	U	820	U	860	U
2-Nitrophenol	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
3,3'-Dichlorobenzidine	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
3-Nitroaniline	ug/kg	840	U	1000	U	870	U	930	U	820	U	860	U
4-Bromophenyl phenyl ether	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB1 SB2 SB4 SB5 SB6
SAMPLE ID: PC-BG1-SB1-SS00-01 PC-BG1-SB2-SS00-01 PC-P1-SB4-SS00-01 PC-P1-SB5-SS00-02 PC-P1-SB6-SS00-02
COLLECTION DATE: 08/09/93 08/15/93 08/24/93 08/24/93 08/24/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
4-Chloro-3-methyl phenol 4-Chloroaniline 4-Chlorophenyl phenyl ether 4-Methylphenol 4-Nitroaniline 4-Nitrophenol Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(ghi)perylene Benzo(k)fluoranthene Butyl benzyl phthalate Carbazole Chrysene Di-n-butyl phthalate Di-n-octyl phthalate Dibenzo(a,h)anthracene Dibenzofuran Diethyl phthalate Dimethyl phthalate Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Indeno(1,2,3-c,d)pyrene Isophorone N-Nitrosodi-N-Propylamine N-Nitrosodiphenylamine Naphthalene Nitrobenzene Pentachlorophenol	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	840	U	1000	U	870	U	930	U	820	U	860	U
	ug/kg	840	U	1000	U	870	U	930	U	820	U	860	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340	U	350	U	
ug/kg	350	U	420	U	360	U	380	U	340				

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SB1		SB2		SB4		SB20		SB5		SB6		
SAMPLE ID:	PC-BG1-SB1-SS00-01		PC-BG1-SB2-SS00-01		PC-P1-SB4-SS00-01		PC-P1-SB20-SS00-02		PC-P1-SB5-SS00-02		PC-P1-SB6-SS00-02		
COLLECTION DATE:	08/09/93		08/15/93		08/24/93		08/24/93		08/24/93		08/24/93		
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
Phenanthrene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
Phenol	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
Pyrene	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
bis(2-Chloroethoxy)methane	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
bis(2-Chloroethyl) ether	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
bis(2-Ethylhexyl)phthalate	ug/kg	350	U	420	U	360	U	380	U	340	U	350	U
METALS													
Aluminum	mg/kg	5330											
Antimony	mg/kg	4.80	UL	5.80	UL	4.90	UL	5.30	UL	4.60	UL		
Arsenic	mg/kg	0.78	0	0.52	U	0.43	U	0.73	OB	0.41	U		
Barium	mg/kg	14.50	0										
Beryllium	mg/kg	0.42	U	0.52	U	0.43	U	0.47	U	0.41	U		
Cadmium	mg/kg	0.53	U	0.64	UL	0.54	UL	0.58	U	0.51	UL		
Calcium	mg/kg	279	0										
Chromium	mg/kg	5.20		2.60		1.20		4.40	L	2.90			
Chromium, Hexavalent	mg/l	-		0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Cobalt	mg/kg	1.30	0										
Copper	mg/kg	1.60	U	1.90	U	1.60	U	1.80	U	1.50	U		
Iron	mg/kg	3940											
Lead	mg/kg	3	J	1.40	B	0.90		3	K	1.30			
Magnesium	mg/kg	426	0										
Manganese	mg/kg	35.60											
Mercury	mg/kg	0.11	U	0.13	U	0.11	U	0.12	U	0.10	U		
Nickel	mg/kg	3.70	U	4.50	U	3.80	U	4.20	(L)	3.60	U		
Potassium	mg/kg	267	0										
Selenium	mg/kg	0.32	UL	0.39	U	0.33	U	0.35	UL	0.31	U		
Silver	mg/kg	0.42	U	0.52	UL	0.43	U	0.47	U	0.41	U		
Sodium	mg/kg	28.20	0										
Thallium	mg/kg	0.32	U	0.39	UL	0.33	U	0.35	UL	0.31	U		
Vanadium	mg/kg	8.20											
Zinc	mg/kg	11.40	B	15.30	B	2	OB	4.30	B	5	B		
TPH		30		10.40		9.60		10.40		6.30	U	6.30	U
Total Petroleum Hydrocarbons	mg/kg												

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB7 SB8 SB9 SB10 SB11 SB12
SAMPLE ID: PC-P1-SB7-SS00-02 PC-P1-SB8-SS00-02 PC-P1-SB9-SS00-02 PC-P1-SB10-SS00-02 PC-P1-SB11-SS00-02 PC-P1-SB12-SS00-02
COLLECTION DATE: 08/24/93 08/24/93 08/24/93 08/24/93 08/24/93 08/24/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

8010	ug/kg	1.10	UJ	1.10	U	0.96	U	0.99	U	0.97	UJ	1.10	U
1,1,1,2-Tetrachloroethane	ug/kg	0.48	B	0.13	B	2.90	U	2.70	U	0.89	B	0.48	B
1,1,1-Trichloroethane	ug/kg	0.72	UJ	0.72	U	0.64	U	0.66	U	0.65	UJ	0.71	U
1,1,2,2-Tetrachloroethane	ug/kg	1	UJ	1	U	0.90	U	0.93	U	0.91	UJ	1	U
1,1,2-Trichloroethane	ug/kg	0.90	UJ	0.90	U	0.80	U	0.82	U	0.81	UJ	0.89	U
1,1-Dichloroethane	ug/kg	1	UJ	1	U	0.90	U	0.93	U	0.91	UJ	1	U
1,1-Dichloroethylene	ug/kg	1.10	UJ	1.10	U	0.96	U	0.99	U	0.97	UJ	1.10	U
1,2,3-Trichloropropane	ug/kg	1.60	UJ	1.60	U	1.40	U	1.40	U	1.40	UJ	1.50	U
1,2-Dibromoethane	ug/kg	1.70	UJ	1.70	U	1.50	UJ	1.50	UJ	1.50	U	1.70	U
1,2-Dichlorobenzene	ug/kg	0.78	UJ	0.78	U	0.69	U	0.71	U	0.70	UJ	0.77	U
1,2-Dichloroethane	ug/kg	0.78	UJ	0.78	U	0.69	U	0.71	U	0.70	UJ	0.77	U
1,2-Dichloropropane	ug/kg	1.30	UJ	1.30	U	1.20	U	1.20	U	1.20	UJ	1.30	U
1,2-trans-Dichloroethylene	ug/kg	1.30	UJ	1.30	U	1.20	U	1.20	U	1.20	U	1.30	U
1,3-Dichlorobenzene	ug/kg	1.10	UJ	1.10	U	1	U	1	U	1	UJ	1.10	U
1,3-cis-Dichloropropylene	ug/kg	1	UJ	1	U	0.90	U	0.93	U	0.91	UJ	1	U
1,3-trans-Dichloropropylene	ug/kg	1.70	UJ	1.70	U	1.50	UJ	1.50	UJ	1.50	U	1.70	U
1,4-Dichlorobenzene	ug/kg	1.30	UJ	1.30	U	1.20	U	1.20	U	1.20	UJ	1.30	U
2-Chloroethylvinyl ether	ug/kg	1.20	UJ	1.20	U	1.10	U	1.10	U	1.10	U	1.20	U
2-Chlorotoluene	ug/kg	1.30	UJ	1.30	U	1.20	UJ	1.20	UJ	1.20	U	1.30	U
4-Chlorotoluene	ug/kg	0.90	UJ	0.90	U	0.80	UJ	0.82	UJ	0.81	U	0.89	U
Bromobenzene	ug/kg	1.10	UJ	1.10	U	0.96	U	0.99	U	0.97	UJ	1.10	U
Bromochloromethane	ug/kg	1.20	UJ	1.20	U	1.10	U	1.10	U	1.10	UJ	1.20	U
Bromodichloromethane	ug/kg	0.78	UJ	0.78	U	0.69	U	0.71	U	0.70	UJ	0.77	U
Bromoform	ug/kg	3.10	UJ	3.10	U	2.80	U	2.90	U	2.80	UJ	3.10	U
Carbon Tetrachloride	ug/kg	0.81	B	0.67	B	0.61	B	0.82	B	0.48	B	0.71	B
Chlorobenzene	ug/kg	0.96	UJ	0.96	U	0.85	U	0.88	U	0.86	UJ	0.95	U
Chloroethane	ug/kg	1.10	UJ	1.10	U	0.96	U	0.99	U	0.97	UJ	1.10	U
Chloroform	ug/kg	3.40	UJ	3.40	U	3	U	3.10	U	3	UJ	3.30	U
Dibromochloromethane	ug/kg	3	UJ	3	U	2.70	U	2.70	U	2.70	UJ	3	U
Dibromomethane	ug/kg	9.30	J	7	U	4.40	B	7.50	U	4.60	B	5	U
Methyl bromide	ug/kg	0.96	UJ	0.96	U	0.85	U	0.88	U	0.86	UJ	0.95	U
Methyl chloride	ug/kg	0.96	UJ	0.96	U	0.85	U	0.88	U	0.86	UJ	0.95	U
Methylene chloride	ug/kg	3.10	UJ	3.10	U	2.80	U	2.90	U	2.80	UJ	3.10	U
Tetrachloroethylene	ug/kg												
Trichloroethylene	ug/kg												
Vinyl chloride	ug/kg												

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB7		SB8		SB9		SB10		SB11		SB12	
	PC-P1-SB7-SS00-02	08/24/93	PC-P1-SB8-SS00-02	08/24/93	PC-P1-SB9-SS00-02	08/24/93	PC-P1-SB10-SS00-02	08/24/93	PC-P1-SB11-SS00-02	08/24/93	PC-P1-SB12-SS00-02	08/24/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	1.70	UJ	1.70	U	1.50	U	1.50	U	0.07	B	0.08	B
1,2-Dimethylbenzene	1.40	UJ	0.16	B	0.04	B	1.30	U	0.03	B	0.03	B
1,3-Dichlorobenzene	2.20	UJ	0.03	B	1.90	U	2	U	1.90	U	0.07	B
1,3/1,4-Dimethylbenzene	3.90	UJ	3.90	U	3.40	U	3.50	U	3.40	U	3.80	U
1,4-Dichlorobenzene	2.20	UJ	0.17	U	0.02	U	2	U	0.10	B	0.33	B
Benzene	1.70	UJ	1.70	U	1.50	U	1.50	U	1.50	U	1.70	U
Chlorobenzene	2.20	UJ	2.20	U	1.90	U	2	U	1.90	U	0.03	B
Ethylbenzene	2.20	UJ	2.20	U	1.90	U	2	U	1.90	U	2.10	U
Methyl-t-Butyl Ether	13	UJ	13	U	12	U	12	U	12	U	13	U
Styrene	1.80	UJ	0.05	U	1.60	U	1.60	U	0.02	B	0.05	B
Toluene	6.40	UJ	0.13	B	0.19	B	5.80	U	0.23	B	0.13	B
CLP 3/90												
1,2,4-Trichlorobenzene	400	U	400	U	350	U	360	U	350	U	390	U
1,2-Dichlorobenzene	400	U	400	U	350	U	360	U	350	U	390	U
1,3-Dichlorobenzene	400	U	400	U	350	U	360	U	350	U	390	U
1,4-Dichlorobenzene	400	U	400	U	350	U	360	U	350	U	390	U
2,2'-Oxybis(1-Chloropropane)	400	U	400	U	350	U	360	U	350	U	390	U
2,4,5-Trichlorophenol	960	U	960	U	850	U	870	U	860	U	940	U
2,4,6-Trichlorophenol	400	U	400	U	350	U	360	U	350	U	390	U
2,4-Dichlorophenol	400	U	400	U	350	U	360	U	350	U	390	U
2,4-Dimethylphenol	400	U	400	U	350	U	360	U	350	U	390	U
2,4-Dinitrophenol	960	U	960	U	850	U	870	U	860	U	940	U
2,4-Dinitrotoluene	400	U	400	U	350	U	360	U	350	U	390	U
2,6-Dinitrotoluene	400	U	400	U	350	U	360	U	350	U	390	U
2-Chloronaphthalene	400	U	400	U	350	U	360	U	350	U	390	U
2-Chlorophenol	400	U	400	U	350	U	360	U	350	U	390	U
2-Methyl-4,6-Dinitrophenol	960	U	960	U	850	U	870	U	860	U	940	U
2-Methylnaphthalene	400	U	400	U	350	U	360	U	350	U	390	U
2-Methylphenol	400	U	400	U	350	U	360	U	350	U	390	U
2-Nitroaniline	960	U	960	U	850	U	870	U	860	U	940	U
2-Nitrophenol	400	U	400	U	350	U	360	U	350	U	390	U
3,3'-Dichlorobenzidine	400	U	400	U	350	U	360	U	350	U	390	U
3-Nitroaniline	960	U	960	U	850	U	870	U	860	U	940	U
4-Bromophenyl phenyl ether	400	U	400	U	350	U	360	U	350	U	390	U

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB7		SB8		SB9		SB10		SB11		SB12	
SAMPLE ID:		PC-P1-SB7-SS00-02		PC-P1-SB8-SS00-02		PC-P1-SB9-SS00-02		PC-P1-SB10-SS00-02		PC-P1-SB11-SS00-02		PC-P1-SB12-SS00-02	
COLLECTION DATE:		08/24/93		08/24/93		08/24/93		08/24/93		08/24/93		08/24/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloro-3-methyl phenol	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
4-Chloroaniline	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
4-Chlorophenyl phenyl ether	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
4-Methylphenol	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
4-Nitroaniline	ug/kg	960	U	960	U	850	U	870	U	860	U	940	U
4-Nitrophenol	ug/kg	960	U	960	U	850	U	870	U	860	U	940	U
Acenaphthene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Acenaphthylene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Anthracene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Benzo(a)anthracene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Benzo(a)pyrene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Benzo(b)fluoranthene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Benzo(ghi)perylene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Benzo(k)fluoranthene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Butyl benzyl phthalate	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Carbazole	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Chrysene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Di-n-butyl phthalate	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Di-n-octyl phthalate	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Dibenzo(a,h)anthracene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Dibenzofuran	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Diethyl phthalate	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Dimethyl phthalate	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Fluoranthene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Fluorene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Hexachlorobenzene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Hexachlorobutadiene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Hexachlorocyclopentadiene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Hexachloroethane	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Indeno(1,2,3-c,d)pyrene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Isophorone	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
N-Nitrosodi-N-Propylamine	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
N-Nitrosodiphenylamine	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Naphthalene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Nitrobenzene	ug/kg	400	U	400	U	350	U	360	U	350	U	390	U
Pentachlorophenol	ug/kg	960	U	960	U	850	U	870	U	860	U	940	U

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB7		SB8		SB9		SB10		SB11		SB12	
	PC-P1-SB7-SS00-02		PC-P1-SB8-SS00-02		PC-P1-SB9-SS00-02		PC-P1-SB10-SS00-02		PC-P1-SB11-SS00-02		PC-P1-SB12-SS00-02	
	08/24/93		08/24/93		08/24/93		08/24/93		08/24/93		08/24/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene	400	U	400	U	350	U	360	U	350	U	390	U
Phenol	400	U	400	U	350	U	360	U	350	U	390	U
Pyrene	400	U	400	U	350	U	360	U	350	U	390	U
bis(2-Chloroethoxy)methane	400	U	400	U	350	U	360	U	350	U	390	U
bis(2-Chloroethyl) ether	400	U	400	U	350	U	360	U	350	U	390	U
bis(2-Ethylhexyl)phthalate	400	U	400	U	350	U	360	U	37		390	U
METALS												
Aluminum	5.40	UL	5.40	UL	4.80	UL	5	UL	4.80	UL	5.40	UL
Antimony	0.48	U	0.66	(K)	0.60	0	0.44	UL	0.43	UL	0.55	OB
Arsenic	-		-		-		-		-		-	
Barium	0.48	U	0.48	U	0.43	U	0.44	U	0.43	U	0.48	U
Beryllium	0.60	UL	0.61	UL	0.53	UL	0.55	U	0.54	U	0.60	U
Cadmium	-		-		-		-		-		-	
Calcium	1.20	U	13.30		5.80		1.10	UL	1.10	UL	4.40	L
Chromium	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Chromium, Hexavalent	-		-		-		-		-		-	
Cobalt	1.80	U	10.50		2.20	0	1.70	U	1.60	U	1.80	U
Copper	-		-		-		-		-		-	
Iron	1.30		7.10		2.60	L	0.41	K	0.44	K	3	J
Lead	-		-		-		-		-		-	
Magnesium	-		-		-		-		-		-	
Manganese	0.12	U	0.12	U	0.11	U	0.11	U	0.11	U	0.12	U
Mercury	4.20	U	12.20		4.50		3.90	UL	3.80	UL	4.20	UL
Nickel	-		-		-		-		-		-	
Potassium	0.36	U	0.36	UL	0.32	U	0.33	U	0.32	U	0.36	U
Selenium	0.48	U	0.48	U	0.43	U	0.52	(B)	0.43	U	0.48	U
Silver	-		-		-		-		-		-	
Sodium	0.36	UL	0.36	U	0.32	UL	0.33	UL	0.32	UL	0.36	UL
Thallium	-		-		-		-		-		-	
Vanadium	2.80	(B)	23.60	B	8	B	1.20	OB	1.70	OB	3.60	B
Zinc	-		-		-		-		-		-	
TPH	9.50		20.10		17.40		6.30	U	6.30	U	6.30	U
Total Petroleum Hydrocarbons												

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB13 SB6 SB7 SB8 SB10 SB11
SAMPLE ID: PC-P1-SB13-SS00-02 PC-MP2-SB6-SS00-02 PC-MP2-SB7-SS00-02 PC-MP2-SB8-SS00-02 PC-MP2-SB10-SS00-01 PC-CG3-SB11-SS00-02
COLLECTION DATE: 08/24/93 08/15/93 08/15/93 08/15/93 09/13/93 08/26/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg	1	U	0.98	U	0.95	U	0.94	U	0.94	U
1,1,1,2-Tetrachloroethane	3	U	2.90	UJ	0.22	B	0.20	B	2.80	U
1,1,1-Trichloroethane	0.67	U	0.65	U	0.63	U	0.63	U	0.63	U
1,1,2,2-Tetrachloroethane	0.94	U	0.92	U	0.89	U	0.89	U	0.89	U
1,1,2-Trichloroethane	0.83	U	0.82	U	0.79	U	0.78	U	0.78	U
1,1-Dichloroethane	0.94	U	0.92	U	0.89	U	0.89	U	0.89	U
1,1-Dichloroethylene	1	U	0.98	U	0.95	U	0.94	U	0.94	U
1,2,3-Trichloropropane	1.40	U	1.40	U	1.40	U	1.40	U	1.40	U
1,2-Dibromoethane	1.60	U	1.50	UJ	1.50	U	1.50	UJ	1.50	U
1,2-Dichlorobenzene	0.72	U	0.71	U	0.68	U	0.68	U	0.68	U
1,2-Dichloroethane	0.72	U	0.71	U	0.68	U	0.68	U	0.68	U
1,2-Dichloropropane	1.20	U	1.20	U	1.20	U	1.10	U	1.10	U
1,2-trans-Dichloroethylene	1.20	U	1.20	UJ	1.20	U	1.10	UJ	1.10	U
1,3-Dichlorobenzene	1.10	U	1	U	1	U	0.99	U	0.99	U
1,3-cis-Dichloropropylene	0.94	U	0.92	U	0.89	U	0.89	U	0.89	U
1,3-trans-Dichloropropylene	1.60	U	1.50	UJ	1.50	U	1.50	UJ	1.50	U
1,4-Dichlorobenzene	1.20	U	1.20	U	1.20	U	1.10	U	1.10	U
2-Chloroethylvinyl ether	1.10	U	1.10	UJ	1.10	U	1	UJ	1	U
2-Chlorotoluene	1.20	U	1.20	UJ	1.20	U	1.10	UJ	1.10	U
4-Chlorotoluene	0.83	U	0.82	UJ	0.79	U	0.78	UJ	0.78	U
Bromobenzene	1	U	0.98	U	0.95	U	0.94	U	0.94	U
Bromochloromethane	1.10	U	1.10	U	1.10	U	1	U	1	U
Bromodichloromethane	1	U	0.98	U	0.95	U	0.94	U	0.94	U
Bromoform	0.72	U	0.71	U	0.68	U	0.68	U	0.68	U
Carbon Tetrachloride	2.90	U	2.80	UJ	0.95	U	0.94	UJ	0.94	U
Chlorobenzene	0.31	B	0.55	B	0.58	B	0.97	B	0.19	B
Chloroethane	0.89	U	0.87	U	0.84	U	0.83	U	0.83	U
Chloroform	1	U	0.98	U	0.95	U	0.94	U	0.94	U
Dibromochloromethane	3.10	U	3	U	2.90	U	2.90	U	2.90	U
Dibromomethane	2.80	U	2.70	U	2.60	U	2.60	U	2.60	U
Methyl bromide	1.20	B	17	U	4.40	B	1.30	B	3.80	B
Methyl chloride	0.89	U	0.87	U	0.84	U	0.83	U	0.83	U
Methylene chloride	0.89	U	0.87	U	0.84	U	0.83	U	0.83	U
Tetrachloroethylene	2.90	U	2.80	U	2.70	U	2.70	U	2.70	U
Trichloroethylene										
Vinyl chloride										

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SB13	SB6	SB7	SB8	SB10	SB11
SAMPLE ID:	PC-P1-SB13-SS00-02	PC-MP2-SB6-SS00-02	PC-MP2-SB7-SS00-02	PC-MP2-SB8-SS00-02	PC-MP2-SB10-SS00-01	PC-CG3-SB11-SS00-02
COLLECTION DATE:	08/24/93	08/15/93	08/15/93	08/15/93	09/13/93	08/26/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020						
1,2-Dichlorobenzene	ug/kg	1.60	U	1.50	U	1.50
1,2-Dimethylbenzene	ug/kg	1.30	U	1.30	U	1.30
1,3-Dichlorobenzene	ug/kg	2	U	1.90	U	1.90
1,3/1,4-Dimethylbenzene	ug/kg	3.60	U	3.40	U	3.40
1,4-Dichlorobenzene	ug/kg	2	U	1.90	U	1.90
Benzene	ug/kg	1.60	U	1.50	U	1.50
Chlorobenzene	ug/kg	2	U	1.90	U	1.90
Ethylbenzene	ug/kg	2	U	1.90	U	1.90
Methyl-t-Butyl Ether	ug/kg	12	U	12	U	12
Styrene	ug/kg	1.70	U	1.60	U	1.60
Toluene	ug/kg	5.90	U	0.23	B	0.12
CLP 3/90						
1,2,4-Trichlorobenzene	ug/kg	360	U	350	U	340
1,2-Dichlorobenzene	ug/kg	360	U	350	U	340
1,3-Dichlorobenzene	ug/kg	360	U	350	U	340
1,4-Dichlorobenzene	ug/kg	360	U	350	U	340
2,2'-Oxybis(1-Chloropropane)	ug/kg	360	U	350	U	340
2,4,5-Trichlorophenol	ug/kg	880	U	840	U	830
2,4,6-Trichlorophenol	ug/kg	360	U	350	U	340
2,4-Dichlorophenol	ug/kg	360	U	350	U	340
2,4-Dimethylphenol	ug/kg	360	U	350	U	340
2,4-Dinitrophenol	ug/kg	880	U	840	U	830
2,4-Dinitrotoluene	ug/kg	360	U	350	U	340
2,6-Dinitrotoluene	ug/kg	360	U	350	U	340
2-Chloronaphthalene	ug/kg	360	U	350	U	340
2-Chlorophenol	ug/kg	360	U	350	U	340
2-Methyl-4,6-Dinitrophenol	ug/kg	880	U	840	U	830
2-Methylnaphthalene	ug/kg	360	U	350	U	340
2-Methylphenol	ug/kg	360	U	350	U	340
2-Nitroaniline	ug/kg	880	U	840	U	830
2-Nitrophenol	ug/kg	360	U	350	U	340
3,3'-Dichlorobenzidine	ug/kg	360	U	350	U	340
3-Nitroaniline	ug/kg	880	U	840	U	830
4-Bromophenyl phenyl ether	ug/kg	360	U	350	U	340

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB13 SB6 SB7 SB8 SB10 SB11
SAMPLE ID: PC-P1-SB13-SS00-02 PC-MP2-SB6-SS00-02 PC-MP2-SB7-SS00-02 PC-MP2-SB8-SS00-02 PC-MP2-SB10-SS00-01 PC-CG3-SB11-SS00-02
COLLECTION DATE: 08/24/93 08/15/93 08/15/93 08/15/93 09/13/93 08/26/93

UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloro-3-methyl phenol	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
4-Chloroaniline	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
4-Chlorophenyl phenyl ether	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
4-Methylphenol	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
4-Nitroaniline	ug/kg	880	U	870	U	840	U	820	U	830	U	830	U
4-Nitrophenol	ug/kg	880	U	870	U	840	U	820	U	830	U	830	U
Acenaphthene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Acenaphthylene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Anthracene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Benzo(a)anthracene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Benzo(a)pyrene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Benzo(b)fluoranthene	ug/kg	360	U	52	J	350	U	340	U	340	U	340	U
Benzo(ghi)perylene	ug/kg	360	U	52	J	350	U	340	U	340	U	340	U
Benzo(k)fluoranthene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Butyl benzyl phthalate	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Carbazole	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Chrysene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Di-n-butyl phthalate	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Di-n-octyl phthalate	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Dibenzo(a,h)anthracene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Dibenzofuran	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Diethyl phthalate	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Dimethyl phthalate	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Fluoranthene	ug/kg	360	U	51	U	350	U	340	U	340	U	340	U
Fluorene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Hexachlorobenzene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Hexachlorobutadiene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Hexachlorocyclopentadiene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Hexachloroethane	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Indeno(1,2,3-c,d)pyrene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Isophorone	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
N-Nitrosodi-N-Propylamine	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
N-Nitrosodiphenylamine	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Naphthalene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Nitrobenzene	ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Pentachlorophenol	ug/kg	880	U	870	U	840	U	820	U	830	U	830	U

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB13		SB6		SB7		SB8		SB10		SB11	
	PC-P1-SB13-SS00-02		PC-MP2-SB6-SS00-02		PC-MP2-SB7-SS00-02		PC-MP2-SB8-SS00-02		PC-MP2-SB10-SS00-01		PC-CG3-SB11-SS00-02	
	08/24/93		08/15/93		08/15/93		08/15/93		09/13/93		08/26/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Phenol ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
Pyrene ug/kg	360	U	40	U	350	U	340	U	340	U	340	U
bis(2-Chloroethoxy)methane ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
bis(2-Chloroethyl) ether ug/kg	360	U	360	U	350	U	340	U	340	U	340	U
bis(2-Ethylhexyl)phthalate ug/kg	42	J	360	U	350	U	78	U	340	U	340	U
METALS												
Aluminum mg/kg	-	U	4.90	UL	4.70	UL	4.70	UL	4.70	UL	4.70	UL
Antimony mg/kg	5	U	1.90	B	0.69	OB	2.50	B	1.10	U	0.42	U
Arsenic mg/kg	0.55	O	-	U	-	U	-	U	-	U	-	U
Barium mg/kg	-	U	0.43	U	0.42	U	0.42	U	0.42	U	0.42	U
Beryllium mg/kg	0.44	U	0.54	UL	0.53	UL	0.52	UL	0.52	UL	0.53	UL
Cadmium mg/kg	0.55	UL	-	U	-	U	-	U	-	U	-	U
Calcium mg/kg	-	U	-	U	-	U	-	U	-	U	-	U
Chromium mg/kg	3.80	U	5	U	1.90	U	10.20	U	3.60	U	2.90	U
Chromium, Hexavalent mg/l	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Cobalt mg/kg	-	U	5.10	U	1.60	U	4.70	U	3.30	U	1.60	U
Copper mg/kg	1.70	U	-	U	-	U	-	U	-	U	-	U
Iron mg/kg	-	U	-	U	-	U	-	U	-	U	-	U
Lead mg/kg	2.50	U	31	J	1.40	B	11.80	B	1.30	L	3.80	U
Magnesium mg/kg	-	U	-	U	-	U	-	U	-	U	-	U
Manganese mg/kg	-	U	0.11	U	0.11	U	0.10	U	0.10	U	0.11	U
Mercury mg/kg	0.11	U	3.80	U	3.70	U	8.70	U	3.70	O	3.70	U
Nickel mg/kg	3.90	U	-	U	-	U	-	U	-	U	-	U
Potassium mg/kg	-	U	0.32	UL	0.32	U	0.31	U	0.31	UL	0.32	UL
Selenium mg/kg	0.33	U	0.43	UL	0.42	UL	0.42	UL	0.42	U	0.42	U
Silver mg/kg	0.44	U	-	U	-	U	-	U	-	U	-	U
Sodium mg/kg	-	U	0.32	UL	0.32	UL	R	0.31	UL	0.32	UL	U
Thallium mg/kg	0.33	U	-	U	-	U	-	U	-	U	-	U
Vanadium mg/kg	-	U	20.30	B	9.50	B	21.70	B	19.20	B	9	B
Zinc mg/kg	4.10	B	-	U	-	U	-	U	-	U	-	U
TPH Total Petroleum Hydrocarbons mg/kg	23.90	U	2120	U	12.10	U	45.80	U	2520	U	18	U

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB20 SB12 SB13 SB4 SB6 SB7
SAMPLE ID: PC-CG3-SB20-SS00-02 PC-CG3-SB12-SS00-02 PC-CG3-SB13-SS00-02 PC-HN8-SB4-SS00-02 PC-HN8-SB6-SS00-02 PC-HN8-SB7-SS00-02
COLLECTION DATE: 08/26/93 08/26/93 08/26/93 08/13/93 08/15/93 08/15/93

UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg	0.96	U	0.95	U	0.94	U	0.94	UJ	0.94	U	0.96	U
1,1,1,2-Tetrachloroethane	ug/kg	2.90	U	2.80	U	0.18	B	0.06	J	0.26	B	2.90	UJ
1,1,1-Trichloroethane	ug/kg	0.64	U	0.63	U	0.63	U	0.63	UJ	0.63	U	0.64	U
1,1,2,2-Tetrachloroethane	ug/kg	0.90	U	0.89	U	0.89	U	0.89	UJ	0.89	U	0.90	U
1,1,2-Trichloroethane	ug/kg	0.80	U	0.79	U	0.78	U	0.78	UJ	0.78	U	0.80	U
1,1-Dichloroethane	ug/kg	0.90	U	0.89	U	0.89	U	0.89	UJ	0.89	U	0.90	U
1,1-Dichloroethylene	ug/kg	0.96	U	0.95	U	0.94	U	0.94	UJ	0.94	U	0.96	U
1,2,3-Trichloropropane	ug/kg	1.40	U	1.40	U	1.40	U	1.40	UJ	1.40	U	1.40	U
1,2-Dibromoethane	ug/kg	1.50	U	1.50	UJ	1.50	U	1.50	UJ	1.50	UJ	1.50	U
1,2-Dichlorobenzene	ug/kg	0.69	U	0.68	U	0.68	U	0.68	UJ	0.68	U	0.69	U
1,2-Dichloroethane	ug/kg	0.69	U	0.68	U	0.68	U	0.68	UJ	0.68	U	0.69	U
1,2-Dichloropropane	ug/kg	1.20	U	1.20	U	1.10	U	1.10	UJ	1.10	U	1.20	U
1,2-trans-Dichloroethylene	ug/kg	1.20	U	1.20	UJ	1.10	U	1.10	UJ	1.10	UJ	1.20	U
1,3-Dichlorobenzene	ug/kg	1	U	1	U	0.99	U	0.99	UJ	0.99	U	1	U
1,3-cis-Dichloropropylene	ug/kg	0.90	U	0.89	U	0.89	U	0.89	UJ	0.89	U	0.90	U
1,3-trans-Dichloropropylene	ug/kg	1.50	U	1.50	UJ	1.50	U	1.50	UJ	1.50	UJ	1.50	U
1,4-Dichlorobenzene	ug/kg	1.20	U	1.20	U	1.10	U	1.10	UJ	1.10	U	1.20	U
2-Chloroethylvinyl ether	ug/kg	1.10	U	1.10	UJ	1	U	1	UJ	1	UJ	1.10	U
2-Chlorotoluene	ug/kg	1.20	U	1.20	UJ	1.10	U	1.10	UJ	1.10	UJ	1.20	U
4-Chlorotoluene	ug/kg	0.80	U	0.79	UJ	0.78	U	0.78	UJ	0.78	UJ	0.80	U
Bromobenzene	ug/kg	0.96	U	0.95	U	0.94	U	0.94	UJ	0.94	U	0.96	U
Bromochloromethane	ug/kg	1.10	U	1.10	U	1	U	1	UJ	1	U	1.10	U
Bromodichloromethane	ug/kg	0.96	U	0.95	U	0.94	U	0.94	UJ	0.94	U	0.96	U
Bromoform	ug/kg	0.69	U	0.68	U	0.68	U	0.68	UJ	0.68	U	0.69	U
Carbon Tetrachloride	ug/kg	0.96	U	0.95	UJ	0.94	U	0.94	UJ	0.94	UJ	0.96	U
Chlorobenzene	ug/kg	2.80	U	2.70	U	2.70	U	2.70	UJ	2.70	U	2.80	U
Chloroethane	ug/kg	0.44	B	0.50	B	0.60	B	0.22	B	0.61	B	0.48	B
Chloroform	ug/kg	0.85	U	0.84	U	0.83	U	0.83	UJ	0.83	U	0.85	U
Dibromochloromethane	ug/kg	0.96	U	0.95	U	0.94	U	0.94	UJ	0.94	U	0.96	U
Dibromomethane	ug/kg	3	U	2.90	U	2.90	U	2.90	UJ	2.90	U	3	U
Methyl bromide	ug/kg	2.70	U	2.60	U	2.60	U	2.60	UJ	2.60	U	2.70	U
Methyl chloride	ug/kg	9.30	B	4.50	B	3.10	B	0.31	B	8.40	J	5.10	B
Methylene chloride	ug/kg	0.85	U	0.84	U	0.83	U	0.83	UJ	0.83	U	0.85	U
Tetrachloroethylene	ug/kg	0.85	U	0.84	U	0.83	U	0.83	UJ	0.83	U	0.85	U
Trichloroethylene	ug/kg	2.80	U	2.70	U	2.70	U	2.70	UJ	2.70	U	2.80	U
Vinyl chloride	ug/kg												

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB20 PC-CG3-SB20-SS00-02 08/26/93		SB12 PC-CG3-SB12-SS00-02 08/26/93		SB13 PC-CG3-SB13-SS00-02 08/26/93		SB4 PC-HN8-SB4-SS00-02 08/13/93		SB6 PC-HN8-SB6-SS00-02 08/15/93		SB7 PC-HN8-SB7-SS00-02 08/15/93			
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL		
	UNITS:													
8020	1,2-Dichlorobenzene	ug/kg	4.30	U	1.50	UJ	0.07		0.04	J	1.50	U	1.50	U
	1,2-Dimethylbenzene	ug/kg	1.30	U	1.30	UJ	0.18		0.21	B	1.30	U	1.30	U
	1,3-Dichlorobenzene	ug/kg	1.90	U	1.90	UJ	1.90	U	1.90	U	1.90	U	1.90	U
	1,3/1,4-Dimethylbenzene	ug/kg	3.40	U	3.40	UJ	3.30	U	3.30	U	3.30	U	3.40	U
	1,4-Dichlorobenzene	ug/kg	1.90	U	1.90	UJ	0.25	B	0.26	U	1.90	U	1.90	U
	Benzene	ug/kg	1.50	U	1.50	UJ	0.02	B	0.06		1.50	U	1.50	U
	Chlorobenzene	ug/kg	1.90	U	1.90	UJ	1.90	U	1.90	U	1.90	U	1.90	U
	Ethylbenzene	ug/kg	1.90	U	1.90	UJ	1.90	U	1.90	U	1.90	U	1.90	U
	Methyl-t-Butyl Ether	ug/kg	12	U	12	UJ	11	U	2.40	U	11	U	12	U
	Styrene	ug/kg	1.60	U	1.60	UJ	0.08	B	1.60	U	1.60	U	1.60	U
Toluene	ug/kg	5.60	U	5.60	UJ	0.18		0.12	B	5.50	U	0.23	B	
CLP 3/90	1,2,4-Trichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	1,2-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	1,3-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	1,4-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2,2'-Oxybis(1-Chloropropane)	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2,4,5-Trichlorophenol	ug/kg	840	U	830	U	820	U	830	U	820	U	840	U
	2,4,6-Trichlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2,4-Dichlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2,4-Dimethylphenol	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2,4-Dinitrophenol	ug/kg	840	U	830	U	820	U	830	U	820	U	840	U
	2,6-Dinitrotoluene	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2-Chloronaphthalene	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2-Chlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2-Methyl-4,6-Dinitrophenol	ug/kg	840	U	830	U	820	U	830	U	820	U	840	U
	2-Methylnaphthalene	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2-Methylphenol	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	2-Nitroaniline	ug/kg	840	U	830	U	820	U	830	U	820	U	840	U
	2-Nitrophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	3,3'-Dichlorobenzidine	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
	3-Nitroaniline	ug/kg	840	U	830	U	820	U	830	U	820	U	840	U
	4-Bromophenyl phenyl ether	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB20 SB12 SB13 SB4 SB6 SB7
SAMPLE ID: PC-CG3-SB20-SS00-02 PC-CG3-SB12-SS00-02 PC-CG3-SB13-SS00-02 PC-HN8-SB4-SS00-02 PC-HN8-SB6-SS00-02 PC-HN8-SB7-SS00-02
COLLECTION DATE: 08/26/93 08/26/93 08/26/93 08/13/93 08/15/93 08/15/93

UNITS:											
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT
4-Chloro-3-methyl phenol	ug/kg	350	U	340	U	340	U	340	U	340	350
4-Chloroaniline	ug/kg	350	U	340	U	340	U	340	U	340	350
4-Chlorophenyl phenyl ether	ug/kg	350	U	340	U	340	U	340	U	340	350
4-Methylphenol	ug/kg	350	U	340	U	340	U	340	U	340	350
4-Nitroaniline	ug/kg	840	U	830	U	820	U	830	U	820	840
4-Nitrophenol	ug/kg	840	U	830	U	820	U	830	U	820	840
Acenaphthene	ug/kg	350	U	340	U	340	U	340	U	340	350
Acenaphthylene	ug/kg	350	U	340	U	340	U	340	U	340	350
Anthracene	ug/kg	76	U	340	U	340	U	340	U	340	350
Benzo(a)anthracene	ug/kg	290	U	340	U	340	U	340	U	340	350
Benzo(a)pyrene	ug/kg	170	U	340	U	340	U	340	U	340	350
Benzo(b)fluoranthene	ug/kg	430	U	340	U	340	U	340	U	48	350
Benzo(ghi)perylene	ug/kg	140	U	340	U	340	U	340	U	340	350
Benzo(k)fluoranthene	ug/kg	430	U	340	U	340	U	340	U	340	350
Butyl benzyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	350
Carbazole	ug/kg	60	U	340	U	340	U	340	U	340	350
Chrysene	ug/kg	250	U	340	U	340	U	340	U	74	350
Di-n-butyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	350
Di-n-octyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	350
Dibenzo(a,h)anthracene	ug/kg	350	U	340	U	340	U	340	U	340	350
Dibenzofuran	ug/kg	350	U	340	U	340	U	340	U	340	350
Diethyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	350
Dimethyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	350
Fluoranthene	ug/kg	640	U	340	U	340	U	340	U	340	350
Fluorene	ug/kg	39	U	340	U	340	U	340	U	340	350
Hexachlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	350
Hexachlorobutadiene	ug/kg	350	U	340	U	340	U	340	U	340	350
Hexachlorocyclopentadiene	ug/kg	350	U	340	U	340	U	340	U	340	350
Hexachloroethane	ug/kg	350	U	340	U	340	U	340	U	340	350
Indeno(1,2,3-c,d)pyrene	ug/kg	160	U	340	U	340	U	340	U	340	350
Isophorone	ug/kg	350	U	340	U	340	U	340	U	340	350
N-Nitrosodi-N-Propylamine	ug/kg	350	U	340	U	340	U	340	U	340	350
N-Nitrosodiphenylamine	ug/kg	350	U	340	U	340	U	340	U	340	350
Naphthalene	ug/kg	350	U	340	U	340	U	340	U	340	350
Nitrobenzene	ug/kg	350	U	340	U	340	U	340	U	340	350
Pentachlorophenol	ug/kg	840	U	830	U	820	U	830	U	820	840

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB20		SB12		SB13		SB4		SB6		SB7	
SAMPLE ID:		PC-CG3-SB20-SS00-02		PC-CG3-SB12-SS00-02		PC-CG3-SB13-SS00-02		PC-HN8-SB4-SS00-02		PC-HN8-SB6-SS00-02		PC-HN8-SB7-SS00-02	
COLLECTION DATE:		08/26/93		08/26/93		08/26/93		08/13/93		08/15/93		08/15/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene	ug/kg	440		340	U	340	U	340	U	340	U	350	U
Phenol	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
Pyrene	ug/kg	420		340	U	340	U	340	U	340	U	350	U
bis(2-Chloroethoxy)methane	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
bis(2-Chloroethyl) ether	ug/kg	350	U	340	U	340	U	340	U	340	U	350	U
bis(2-Ethylhexyl)phthalate	ug/kg	350	U	340	U	340	U	340	U	52		350	U
METALS													
Aluminum	mg/kg	-		-		-		3350		-		-	
Antimony	mg/kg	4.80	UL	4.70	UL	4.70	UL	4.70	UL	5.10	(L)	4.80	UL
Arsenic	mg/kg	1.50		0.42	U	0.60	0	0.63	0	2.50	B	0.62	OB
Barium	mg/kg	-		-		-		14.90	0	-		-	
Beryllium	mg/kg	0.42	U	0.42	U	0.41	U	0.42	U	0.42	U	0.43	U
Cadmium	mg/kg	0.53	UL	0.53	UL	0.52	UL	0.52	U	0.52	UL	0.53	UL
Calcium	mg/kg	-		-		-		1230		-		-	
Chromium	mg/kg	7		2.40		5		3.90		2.90		7	
Chromium, Hexavalent	mg/l	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Cobalt	mg/kg	-		-		-		1.30	0	-		-	
Copper	mg/kg	6.60		1.60	U	1.90	0	1.60	U	3.90		1.90	0
Iron	mg/kg	-		-		-		3540		-		-	
Lead	mg/kg	13.50		2.10		2.10		2.20		42.60	J	1.70	B
Magnesium	mg/kg	-		-		-		444		-		-	
Manganese	mg/kg	-		-		-		193		-		-	
Mercury	mg/kg	0.11	U	0.11	U	0.10	U	0.10	U	0.10	U	0.11	U
Nickel	mg/kg	3.70	U	3.70	U	3.70	0	3.70	U	3.70	U	3.70	U
Potassium	mg/kg	-		-		-		268		-		-	
Selenium	mg/kg	0.32	U	0.32	U	0.31	UL	0.31	U	0.34	0	0.32	U
Silver	mg/kg	0.42	U	0.42	U	0.41	U	0.42	U	0.42	UL	0.43	UL
Sodium	mg/kg	-		-		-		31.20	0	-		-	
Thallium	mg/kg	0.32	U	0.32	U	0.31	U	0.31	U	0.31	UL	0.32	UL
Vanadium	mg/kg	-		-		-		8.20		-		-	
Zinc	mg/kg	33.10	B	9.90	B	7.10	B	13.30	B	15	B	17.60	B
TPH	mg/kg	382		13.50		6.30	U	13.80		11000		22.70	
Total Petroleum Hydrocarbons	mg/kg												

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB7 SB8 SB9 SB10 SB11 SB12
SAMPLE ID: PC-RT9-SB7-SS01-02 PC-RT9-SB8-SS01-02 PC-RT9-SB9-SS01-02 PC-RT9-SB10-SS01-02 PC-RT9-SB11-SS01-02 PC-RT9-SB12-SS01-02
COLLECTION DATE: 11/12/92 11/12/92 11/12/92 11/12/92 11/12/92 11/13/92

UNITS:		SB7	SB8	SB9	SB10	SB11	SB12
RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg							
1,1,1,2-Tetrachloroethane	U	0.95	0.93	0.96	0.94	0.95	0.97
1,1,1-Trichloroethane	B	0.24	2.80	0.23	2.80	0.08	2.90
1,1,2,2-Tetrachloroethane	U	0.63	0.62	0.64	0.63	0.63	0.65
1,1,2-Trichloroethane	U	0.89	0.88	0.90	0.89	0.89	0.91
1,1-Dichloroethane	U	0.79	0.77	0.80	0.78	0.79	0.81
1,1-Dichloroethylene	U	0.89	0.88	0.90	0.89	0.89	0.91
1,2,3-Trichloropropane	U	0.95	0.93	0.96	0.94	0.95	0.97
1,2-Dibromoethane	U	1.40	1.30	1.40	1.40	1.40	1.40
1,2-Dichlorobenzene	U	1.50	1.40	1.50	1.50	1.50	1.50
1,2-Dichloroethane	U	0.68	0.67	0.69	0.68	0.68	0.70
1,2-Dichloropropane	U	0.68	0.67	0.69	0.68	0.68	0.70
1,2-trans-Dichloroethylene	U	1.20	1.10	1.20	1.10	1.20	1.20
1,3-Dichlorobenzene	U	1.20	1.10	1.20	1.10	1.20	1.20
1,3-cis-Dichloropropylene	U	1	0.98	1	0.99	1	1
1,3-trans-Dichloropropylene	U	0.89	0.88	0.90	0.89	0.89	0.91
1,4-Dichlorobenzene	U	1.50	1.40	1.50	1.50	1.50	1.50
2-Chloroethylvinyl ether	U	1.20	1.10	1.20	1.10	1.20	1.20
2-Chlorotoluene	U	1.10	1	1.10	1	1.10	1.10
4-Chlorotoluene	U	1.20	1.10	1.20	1.10	1.20	1.20
Bromobenzene	U	0.79	0.77	0.80	0.78	0.79	0.81
Bromochloromethane	U	0.95	0.93	0.96	0.94	0.95	0.97
Bromodichloromethane	U	1.10	1	1.10	1	1.10	1.10
Bromoform	U	0.95	0.93	0.96	0.94	0.95	0.97
Carbon Tetrachloride	U	0.68	0.67	0.69	0.68	0.68	0.70
Chlorobenzene	U	0.95	0.93	0.96	0.94	0.95	0.97
Chloroethane	U	2.70	2.70	2.80	2.70	2.70	2.80
Chloroform	B	1.20	0.34	1.10	0.77	1.50	0.51
Dibromochloromethane	U	0.84	0.82	0.85	0.83	0.84	0.86
Dibromomethane	U	0.95	0.93	0.96	0.94	0.95	0.97
Methyl bromide	U	2.90	2.90	3	2.90	2.90	3
Methyl chloride	U	2.60	2.60	2.70	2.60	2.60	2.70
Methylene chloride	B	3.10	0.97	4.20	3.70	2	9.40
Tetrachloroethylene	U	0.84	0.82	0.85	0.83	0.84	0.86
Trichloroethylene	U	0.84	0.82	0.85	0.83	0.84	0.86
Vinyl chloride	U	2.70	2.70	2.80	2.70	2.70	2.80

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB7		SB8		SB9		SB10		SB11		SB12	
	PC-RT9-SB7-SS01-02		PC-RT9-SB8-SS01-02		PC-RT9-SB9-SS01-02		PC-RT9-SB10-SS01-02		PC-RT9-SB11-SS01-02		PC-RT9-SB12-SS01-02	
	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/13/92	11/13/92
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	1.50	U	1.40	U	1.50	U	1.50	U	1.50	U	1.50	U
1,2-Dimethylbenzene	1.30	U	1.20	U	1.30	U	1.30	U	1.30	U	1.30	U
1,3-Dichlorobenzene	1.90	U	0.07	B	0.61	B	1.90	U	0.41	B	1.90	U
1,3,1,4-Dimethylbenzene	3.40	U	3.30	U	3.40	U	3.30	U	3.40	U	3.40	U
1,4-Dichlorobenzene	1.90	U	1.10	B	1.90	U	1.90	U	0.10	U	2.60	U
Benzene	1.50	U	1.40	U	1.50	U	1.50	U	1.50	U	1.50	U
Chlorobenzene	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
Ethylbenzene	1.90	U	1.90	U	0.17	B	1.90	U	1.90	U	1.90	U
Methyl-t-Butyl Ether	12	U	11	U	12	U	11	U	0.56	J	12	U
Styrene	1.60	U	1.50	U	1.60	U	1.60	U	1.60	U	1.60	U
Toluene	5.60	U	0.47	B	0.52	B	5.50	U	0.20	B	5.70	U
CLP 3/90												
1,2,4-Trichlorobenzene	350	U	340	U	350	U	340	U	350	U	350	U
1,2-Dichlorobenzene	350	U	340	U	350	U	340	U	350	U	350	U
1,3-Dichlorobenzene	350	U	340	U	350	U	340	U	350	U	350	U
1,4-Dichlorobenzene	350	U	340	U	350	U	340	U	350	U	350	U
2,2'-Oxybis(1-Chloropropane)	350	U	340	U	350	U	340	U	350	U	350	U
2,4,5-Trichlorophenol	840	U	820	U	850	U	830	U	840	U	860	U
2,4,6-Trichlorophenol	350	U	340	U	350	U	340	U	350	U	350	U
2,4-Dichlorophenol	350	U	340	U	350	U	340	U	350	U	350	U
2,4-Dimethylphenol	350	U	340	U	350	U	340	U	350	U	350	U
2,4-Dinitrophenol	840	U	820	U	850	U	830	U	840	U	860	U
2,6-Dinitrotoluene	350	U	340	U	350	U	340	U	350	U	350	U
2-Chloronaphthalene	350	U	340	U	350	U	340	U	350	U	350	U
2-Chlorophenol	350	U	340	U	350	U	340	U	350	U	350	U
2-Methyl-4,6-Dinitrophenol	840	U	820	U	850	U	830	U	840	U	860	U
2-Methylnaphthalene	350	U	340	U	350	U	340	U	350	U	350	U
2-Methylphenol	350	U	340	U	350	U	340	U	350	U	350	U
2-Nitroaniline	840	U	820	U	850	U	830	U	840	U	860	U
2-Nitrophenol	350	U	340	U	350	U	340	U	350	U	350	U
3,3'-Dichlorobenzidine	350	U	340	U	350	U	340	U	350	U	350	U
3-Nitroaniline	840	U	820	U	850	U	830	U	840	U	860	U
4-Bromophenyl phenyl ether	350	U	340	U	350	U	340	U	350	U	350	U

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SB7	SB8	SB9	SB10	SB11	SB12
SAMPLE ID:	PC-RT9-SB7-SS01-02	PC-RT9-SB8-SS01-02	PC-RT9-SB9-SS01-02	PC-RT9-SB10-SS01-02	PC-RT9-SB11-SS01-02	PC-RT9-SB12-SS01-02
COLLECTION DATE:	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/13/92
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloro-3-methyl phenol	ug/kg	350	U	340	U	350
4-Chloroaniline	ug/kg	350	U	340	UJ	350
4-Chlorophenyl phenyl ether	ug/kg	350	U	340	U	350
4-Methylphenol	ug/kg	350	U	340	U	350
4-Nitroaniline	ug/kg	820	U	830	U	860
4-Nitrophenol	ug/kg	840	UJ	830	UJ	860
Acenaphthene	ug/kg	350	U	340	U	350
Acenaphthylene	ug/kg	350	U	340	U	350
Anthracene	ug/kg	350	U	340	U	350
Benzo(a)anthracene	ug/kg	350	U	340	U	350
Benzo(a)pyrene	ug/kg	350	U	340	U	350
Benzo(b)fluoranthene	ug/kg	350	U	340	U	350
Benzo(ghi)perylene	ug/kg	350	U	340	U	350
Benzo(k)fluoranthene	ug/kg	350	U	340	U	350
Butyl benzyl phthalate	ug/kg	350	UJ	340	UJ	350
Carbazole	ug/kg	350	U	340	U	350
Chrysene	ug/kg	350	U	340	U	350
Di-n-butyl phthalate	ug/kg	150	BJ	230	B	86
Di-n-octyl phthalate	ug/kg	350	UJ	340	UJ	350
Dibenzo(a,h)anthracene	ug/kg	350	U	340	U	350
Dibenzofuran	ug/kg	350	U	340	U	350
Diethyl phthalate	ug/kg	350	U	340	U	350
Dimethyl phthalate	ug/kg	350	U	340	U	350
Fluoranthene	ug/kg	350	U	340	U	350
Fluorene	ug/kg	350	U	340	U	350
Hexachlorobenzene	ug/kg	350	U	340	UJ	350
Hexachlorobutadiene	ug/kg	350	U	340	U	350
Hexachlorocyclopentadiene	ug/kg	350	U	340	U	350
Hexachloroethane	ug/kg	350	U	340	U	350
Indeno(1,2,3-c,d)pyrene	ug/kg	350	U	340	U	350
Isophorone	ug/kg	350	U	340	U	350
N-Nitrosodi-N-Propylamine	ug/kg	350	UJ	340	UJ	350
N-Nitrosodiphenylamine	ug/kg	350	U	340	UJ	350
Naphthalene	ug/kg	350	U	340	U	350
Nitrobenzene	ug/kg	350	U	340	U	350
Pentachlorophenol	ug/kg	840	U	830	U	860

Appendix L - Surface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB7		SB8		SB9		SB10		SB11		SB12	
	PC-RT9-SB7-SS01-02		PC-RT9-SB8-SS01-02		PC-RT9-SB9-SS01-02		PC-RT9-SB10-SS01-02		PC-RT9-SB11-SS01-02		PC-RT9-SB12-SS01-02	
	11/12/92		11/12/92		11/12/92		11/12/92		11/12/92		11/13/92	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene ug/kg	350	U	340	U	350	U	340	U	350	U	350	U
Phenol ug/kg	350	U	340	U	350	U	340	U	350	U	350	U
Pyrene ug/kg	350	U	340	U	350	U	340	U	350	U	350	U
bis(2-Chloroethoxy)methane ug/kg	350	U	340	U	350	U	340	U	350	U	350	U
bis(2-Chloroethyl) ether ug/kg	350	U	340	U	350	U	340	U	350	U	350	U
bis(2-Ethylhexyl)phthalate ug/kg	350	UJ	340	UJ	350	UJ	340	UJ	150	J	52	J
METALS												
Aluminum mg/kg	4220	J	1600	J	2350	J	2710	J	2640	J	-	UL
Antimony mg/kg	6	U	5.90	U	6	U	5.90	U	6	U	6.10	UL
Arsenic mg/kg	0.65	B0	0.71	B0	1.10	B0	0.65	B0	0.52	B0	0.75	B
Barium mg/kg	13	B0	5.60	B0	10.20	B0	7.90	B0	7.60	B0	-	B
Beryllium mg/kg	0.21	U	0.21	U	0.21	U	0.21	U	0.21	U	0.26	B
Cadmium mg/kg	0.52	U	0.52	U	0.53	U	0.52	U	0.59	U	0.54	U
Calcium mg/kg	495	B0	358	B0	2570	B0	230	QJ	283	QJ	-	U
Chromium mg/kg	5.30	U	3.60	U	3.30	U	3.70	U	4.10	U	5.40	U
Chromium, Hexavalent mg/l	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Cobalt mg/kg	1.30	B0	1.20	B0	1.20	U	1.20	B0	1.20	B0	-	U
Copper mg/kg	2.60	U	2.60	U	2.70	U	2.60	U	2.60	U	7.80	U
Iron mg/kg	3390	U	2290	U	2300	U	2380	U	2320	U	-	U
Lead mg/kg	1.70	B0	1.40	B0	1.70	U	1.20	A	1.20	A	2.60	U
Magnesium mg/kg	515	U	533	U	813	U	490	B0	504	B0	-	U
Manganese mg/kg	30.20	U	51.60	U	47.50	U	21.10	UN	23.70	UN	-	UN
Mercury mg/kg	0.10	U	0.10	U	0.11	U	0.10	U	0.10	U	0.10	UN
Nickel mg/kg	4.20	U	4.10	U	4.20	U	4.20	U	4.20	U	4.30	U
Potassium mg/kg	509	U	502	U	515	U	507	U	510	U	-	U
Selenium mg/kg	0.42	U	0.41	U	0.42	UW	0.42	U	0.42	U	0.43	U
Silver mg/kg	1	U	1	U	1.10	U	1	U	1	U	1.10	U
Sodium mg/kg	84.10	B0	89.30	B0	97.30	B0	81.40	B0	87.30	B0	-	U
Thallium mg/kg	0.21	UL	0.21	UL	0.21	UL	0.21	UL	0.21	UL	0.22	U
Vanadium mg/kg	8.50	B	5.40	B	5.50	B	5.10	B0	5.50	B0	-	U
Zinc mg/kg	6.80	B	4.50	B	5.60	B	4.90	B	4.30	B	6	U
TPH Total Petroleum Hydrocarbons mg/kg	20		19.60		20.50		21.50		14.10		14.50	

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB1 SB2 SB4 SB5 SB6
SAMPLE ID: PC-BG1-SB1-SS02-03 PC-BG1-SB1-SS09-10 PC-BG1-SB2-SS02-03 PC-P1-SB4-SS02-03 PC-P1-SB5-SS03-04 PC-P1-SB6-SS03-04
COLLECTION DATE: 08/09/93 08/09/93 08/15/93 08/24/93 08/24/93 08/24/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg	0.95	U	0.95	U	1	U	1.10	U	0.99	UJ
1,1,1,2-Tetrachloroethane	0.27	B	0.10	B	0.48	U	0.30	B	0.26	B
1,1,1-Trichloroethane	0.63	U	0.63	U	0.70	U	0.71	U	0.66	UJ
1,1,2,2-Tetrachloroethane	0.89	U	0.89	U	0.99	U	1	U	0.93	UJ
1,1,2-Trichloroethane	0.79	U	0.79	U	0.87	U	0.89	U	0.82	UJ
1,1-Dichloroethane	0.89	U	0.89	U	0.99	U	1	U	0.93	UJ
1,1-Dichloroethylene	0.95	U	0.95	U	1	U	1.10	U	0.99	UJ
1,2,3-Trichloropropane	1.40	U	1.40	U	1.50	U	1.50	U	1	UJ
1,2-Dibromomethane	1.50	U	1.50	U	1.60	U	1.70	U	1.40	UJ
1,2-Dichlorobenzene	0.68	U	0.68	U	0.76	U	0.77	U	1.50	UJ
1,2-Dichloroethane	0.68	U	0.68	U	0.76	U	0.77	U	0.71	UJ
1,2-Dichloropropane	1.20	U	1.20	U	1.30	U	1.30	U	0.76	UJ
1,2-trans-Dichloroethylene	1.20	U	1.20	U	1.30	U	1.30	U	1.20	UJ
1,3-Dichlorobenzene	1	U	1	U	1.10	U	1.10	U	1.20	UJ
1,3-cis-Dichloropropylene	0.89	U	0.89	U	0.99	U	1	U	1	UJ
1,3-trans-Dichloropropylene	1.50	U	1.50	U	1.60	U	1.70	U	0.93	UJ
1,4-Dichlorobenzene	1.20	U	1.20	U	1.30	U	1.30	U	1.50	UJ
2-Chloroethylvinyl ether	1.10	U	1.10	U	1.20	U	1.20	U	1.20	UJ
2-Chlorotoluene	1.20	U	1.20	U	1.30	U	1.30	U	1.10	UJ
4-Chlorotoluene	0.79	U	0.79	U	0.87	U	0.89	U	1.20	UJ
Bromobenzene	0.95	U	0.95	U	1	U	1.10	U	1.20	UJ
Bromochloromethane	1.10	U	1.10	U	1.20	U	1.20	U	0.82	U
Bromodichloromethane	0.95	U	0.95	U	1	U	1.10	U	0.99	UJ
Bromoform	0.68	U	0.68	U	0.76	U	0.77	U	1.10	UJ
Carbon Tetrachloride	0.95	U	0.95	U	1	U	1.10	U	0.99	UJ
Chlorobenzene	2.70	U	2.70	U	3	U	3.10	U	0.71	UJ
Chloroethane	0.91	B	0.83	B	0.92	B	0.79	B	2.90	UJ
Chloroform	0.84	U	0.84	U	0.93	U	0.95	U	0.69	B
Dibromochloromethane	0.95	U	0.95	U	1	U	1.10	U	0.88	UJ
Dibromomethane	2.90	U	2.90	U	3.30	U	3.30	U	0.99	UJ
Methyl bromide	2.60	U	2.60	U	2.90	U	3	U	3.10	UJ
Methyl chloride	2.50	B	1.80	B	9.10	J	5.40	B	2.70	UJ
Methylene chloride	0.84	U	0.84	U	0.93	U	0.95	U	2.50	J
Tetrachloroethylene	0.84	U	0.84	U	0.93	U	0.95	U	0.88	UJ
Trichloroethylene	2.70	U	2.70	U	3	U	3.10	U	0.88	UJ
Vinyl chloride									2.90	UJ

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB1		SB1		SB2		SB4		SB5		SB6	
SAMPLE ID:		PC-BG1-SB1-SS02-03		PC-BG1-SB1-SS09-10		PC-BG1-SB2-SS02-03		PC-P1-SB4-SS02-03		PC-P1-SB5-SS03-04		PC-P1-SB6-SS03-04	
COLLECTION DATE:		08/09/93		08/09/93		08/15/93		08/24/93		08/24/93		08/24/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg	1.50	U	1.50	U	0.79	U	1.70	U	1.50	U	3.80	J
1,2-Dichlorobenzene	ug/kg	1.30	U	1.30	U	0.14	U	1.40	U	1.30	U	1.40	U
1,2-Dimethylbenzene	ug/kg	1.90	U	1.90	U	2.10	U	0.45	B	0.29	B	2.10	U
1,3-Dichlorobenzene	ug/kg	-	U	-	U	-	U	-	U	-	U	-	U
1,3-Dimethylbenzene	ug/kg	3.40	U	3.40	U	3.70	U	3.80	U	3.50	U	3.70	U
1,3/1,4-Dimethylbenzene	ug/kg	1.90	U	1.90	U	0.11	B	2.10	U	0.65	B	2.10	U
1,4-Dichlorobenzene	ug/kg	-	U	-	U	-	U	-	U	-	U	-	U
1,4-Dimethylbenzene	ug/kg	1.50	U	1.50	U	0.04	U	1.70	U	1.50	U	1.60	U
Benzene	ug/kg	1.90	U	1.90	U	2.10	U	2.10	U	2	U	2.10	U
Chlorobenzene	ug/kg	1.90	U	1.90	U	2.10	U	2.10	U	2	U	2.10	U
Ethylbenzene	ug/kg	12	U	12	U	13	U	13	U	12	U	13	U
Methyl-t-Butyl Ether	ug/kg	1.60	U	1.60	U	1.70	U	1.80	U	1.60	U	1.70	U
Styrene	ug/kg	5.60	U	5.60	U	5.60	U	0.22	B	5.80	U	6.20	U
Toluene	ug/kg												
CLP 3/90	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
1,2,4-Trichlorobenzene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
1,2-Dichlorobenzene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
1,3-Dichlorobenzene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
1,4-Dichlorobenzene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	830	U	830	U	930	U	950	U	880	U	930	U
2,4,5-Trichlorophenol	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2,4,6-Trichlorophenol	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2,4-Dichlorophenol	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2,4-Dimethylphenol	ug/kg	830	U	830	U	930	U	950	U	880	U	930	U
2,4-Dinitrophenol	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2,4-Dinitrotoluene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2,6-Dinitrotoluene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2-Chloronaphthalene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2-Chlorophenol	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2-Methyl-4,6-Dinitrophenol	ug/kg	830	U	830	U	930	U	950	U	880	U	930	U
2-Methylnaphthalene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2-Methylphenol	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
2-Nitroamine	ug/kg	830	U	830	U	930	U	950	U	880	U	930	U
2-Nitrophenol	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
3,3'-Dichlorobenzidine	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SBI		SBI		SB2		SB4		SB5		SB6		
SAMPLE ID:	PC-BG1-SBI-SS02-03		PC-BG1-SBI-SS09-10		PC-BG1-SB2-SS02-03		PC-P1-SB4-SS02-03		PC-P1-SB5-SS03-04		PC-P1-SB6-SS03-04		
COLLECTION DATE:	08/09/93		08/09/93		08/15/93		08/24/93		08/24/93		08/24/93		
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
Nitrobenzene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
Pentachlorophenol	ug/kg	830	U	830	U	930	U	950	U	880	U	930	U
Phenanthrene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
Phenol	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
Pyrene	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
bis(2-Chloroethoxy)methane	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
bis(2-Chloroethyl) ether	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
bis(2-Ethylhexyl)phthalate	ug/kg	340	U	340	U	380	U	390	U	360	U	380	U
METALS													
Aluminum	mg/kg	1480	UL	805	UL	5.30	UL	5.30	UL	4.90	UL	5.20	UL
Antimony	mg/kg	4.70	U	4.70	U	1.70	B	0.47	U	0.44	U	0.47	U
Arsenic	mg/kg	0.48	U	0.57	U	-	-	-	-	-	-	-	-
Barium	mg/kg	4.20	U	2.30	U	-	-	-	-	-	-	-	-
Beryllium	mg/kg	0.42	U	0.42	U	0.47	U	0.47	U	0.44	U	0.47	U
Cadmium	mg/kg	0.53	U	0.53	U	0.58	UL	0.59	UL	0.55	UL	0.58	UL
Calcium	mg/kg	160	U	30800	U	-	-	-	-	-	-	-	-
Chromium	mg/kg	2.80	U	2.10	U	4.50	U	2.90	U	2.70	U	1.40	U
Chromium, Hexavalent	mg/l	-	U	-	U	0.01	U	0.01	U	0.01	U	0.01	U
Cobalt	mg/kg	0.95	U	0.95	U	-	-	-	-	-	-	-	-
Copper	mg/kg	1.60	U	1.60	U	2.60	U	1.80	U	1.60	U	1.70	U
Iron	mg/kg	1870	U	1620	U	-	-	-	-	-	-	-	-
Lead	mg/kg	1.10	U	0.88	U	1.40	B	1.60	U	1.30	U	0.94	U
Magnesium	mg/kg	433	U	4470	U	-	-	-	-	-	-	-	-
Manganese	mg/kg	21.90	U	39	U	-	-	-	-	-	-	-	-
Mercury	mg/kg	0.11	U	0.11	U	0.12	U	0.12	U	0.11	U	0.11	U
Nickel	mg/kg	3.70	U	3.70	U	4.10	U	4.10	U	3.80	U	4.10	U
Potassium	mg/kg	240	U	241	U	-	-	-	-	-	-	-	-
Selenium	mg/kg	0.32	U	0.32	U	0.63	L	0.36	U	0.33	U	0.35	U
Silver	mg/kg	0.42	U	0.42	U	0.47	UL	0.47	U	0.44	U	0.47	U
Sodium	mg/kg	30.20	U	48.80	U	-	-	-	-	-	-	-	-
Thallium	mg/kg	0.32	U	0.32	U	0.35	UL	0.36	U	0.33	U	0.35	U
Vanadium	mg/kg	3.60	U	3.30	U	-	-	-	-	-	-	-	-
Zinc	mg/kg	3.80	B	3.80	B	9.60	B	4.20	B	3.80	B	6.10	B
TPH	mg/kg	11.30	U	10	U	14.10	U	12.40	U	29.70	U	6.30	U
Total Petroleum Hydrocarbons	mg/kg	11.30	U	10	U	14.10	U	12.40	U	29.70	U	6.30	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB7 SB8 SB9 SB10 SB11 SB13
SAMPLE ID: PC-P1-SB7-SS03-04 PC-P1-SB8-SS03-04 PC-P1-SB9-SS03-04 PC-P1-SB10-SS03-04 PC-P1-SB11-SS03-04 PC-P1-SB13-SS03-04
COLLECTION DATE: 08/24/93 08/24/93 08/24/93 08/24/93 08/24/93 08/24/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg	1.10	U	1.10	U	1	U	1	U	1	U	1.10	U
1,1,1,2-Tetrachloroethane	0.11	B	0.33	B	0.09	B	2.20	B	1.40	U	0.29	B
1,1,1-Trichloroethane	0.73	U	0.71	U	0.69	U	0.69	U	0.70	U	0.75	U
1,1,2,2-Tetrachloroethane	1	U	1	U	0.98	U	0.98	U	0.99	U	1.10	U
1,1,2-Trichloroethane	0.91	U	0.89	U	0.86	U	0.86	U	0.87	U	0.94	U
1,1-Dichloroethane	1	U	1	U	0.98	U	0.98	U	0.99	U	1.10	U
1,1-Dichloroethylene	1.10	U	1.10	U	1	U	1	U	1	U	1.10	U
1,2,3-Trichloropropane	1.60	U	1.50	U	1.50	U	1.50	U	1.50	U	1.60	U
1,2-Dibromoethane	1.70	U	1.70	U	1.60	U	1.60	U	1.60	U	1.80	U
1,2-Dichlorobenzene	0.79	U	0.77	U	0.75	U	0.75	U	0.76	U	0.81	U
1,2-Dichloroethane	0.79	U	0.77	U	0.75	U	0.75	U	0.76	U	0.81	U
1,2-Dichloropropane	1.30	U	1.30	U	1.30	U	1.30	U	1.30	U	1.40	U
1,2-trans-Dichloroethylene	1.30	U	1.30	U	1.30	U	1.30	U	1.30	U	1.40	U
1,3-Dichlorobenzene	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U	1.20	U
1,3-cis-Dichloropropylene	1	U	1	U	0.98	U	0.98	U	0.99	U	1.10	U
1,3-trans-Dichloropropylene	1.70	U	1.70	U	1.60	U	1.60	U	1.60	U	1.80	U
1,4-Dichlorobenzene	1.30	U	1.30	U	1.30	U	1.30	U	1.30	U	1.40	U
2-Chloroethylvinyl ether	1.20	U	1.20	U	1.10	U	1.10	U	1.20	U	1.20	U
2-Chlorotoluene	1.30	U	1.30	U	1.30	U	1.30	U	1.30	U	1.40	U
4-Chlorotoluene	0.91	U	0.89	U	0.86	U	0.86	U	0.87	U	0.94	U
Bromobenzene	1.10	U	1.10	U	1	U	1	U	1	U	1.10	U
Bromochloromethane	1.20	U	1.20	U	1.10	U	1.10	U	1.20	U	1.20	U
Bromodichloromethane	1.10	U	1.10	U	1	U	1	U	1	U	1.10	U
Bromoform	0.79	U	0.77	U	0.75	U	0.75	U	0.76	U	0.81	U
Carbon Tetrachloride	1.10	U	1.10	U	1	U	1	U	1	U	1.10	U
Chlorobenzene	3.20	U	3.10	U	3	U	3	U	3	U	3.20	U
Chloroethane	0.88	B	0.89	B	1.40	B	0.81	B	0.65	B	0.54	B
Chloroform	0.98	U	0.95	U	0.92	U	0.92	U	0.93	U	1	U
Dibromochloromethane	1.10	U	1.10	U	1	U	1	U	1	U	1.10	U
Dibromomethane	3.40	U	3.30	U	3.20	U	3.20	U	3.30	U	3.50	U
Methyl bromide	3	U	3	U	2.90	U	2.90	U	2.90	U	3.10	U
Methyl chloride	5.80	B	7.70	U	3.90	B	10	U	8.70	U	4.70	J
Methylene chloride	0.98	U	0.95	U	0.92	U	0.92	U	0.93	U	1	U
Tetrachloroethylene	0.98	U	0.95	U	0.92	U	0.92	U	0.93	U	1	U
Trichloroethylene	3.20	U	3.10	U	3	U	3	U	3	U	3.20	U
Vinyl chloride												

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SB7	SB8	SB9	SB10	SB11	SB13
SAMPLE ID:	PC-P1-SB7-SS03-04	PC-P1-SB8-SS03-04	PC-P1-SB9-SS03-04	PC-P1-SB10-SS03-04	PC-P1-SB11-SS03-04	PC-P1-SB13-SS03-04
COLLECTION DATE:	08/24/93	08/24/93	08/24/93	08/24/93	08/24/93	08/24/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020						
1,2-Dichlorobenzene	1.70	U	0.08	1.60	1.60	1.80
1,2-Dimethylbenzene	0.09	B	0.16	1.40	1.40	1.50
1,3-Dichlorobenzene	2.20	U	2.10	2.10	2.10	2.20
1,3-Dimethylbenzene	-	-	-	-	-	-
1,3/1,4-Dimethylbenzene	3.90	U	3.70	3.70	3.70	4
1,4-Dichlorobenzene	0.06	U	0.47	2.10	2.10	2.20
1,4-Dimethylbenzene	-	-	-	-	-	-
Benzene	1.70	U	1.60	1.60	1.60	1.80
Chlorobenzene	2.20	U	2.10	2.10	2.10	2.20
Ethylbenzene	2.20	U	2.10	2.10	2.10	2.20
Methyl-t-Butyl Ether	13	U	13	13	13	14
Styrene	0.02	U	1.70	1.70	1.70	1.90
Toluene	0.26	B	0.46	6.10	6.20	6.60
CLP 3/90						
1,2,4-Trichlorobenzene	400	U	380	380	380	410
1,2-Dichlorobenzene	400	U	380	380	380	410
1,3-Dichlorobenzene	400	U	380	380	380	410
1,4-Dichlorobenzene	400	U	380	380	380	410
2,2'-Oxybis(1-Chloropropane)	400	U	380	380	380	410
2,4,5-Trichlorophenol	980	U	920	920	920	990
2,4,6-Trichlorophenol	400	U	380	380	380	410
2,4-Dichlorophenol	400	U	380	380	380	410
2,4-Dimethylphenol	400	U	380	380	380	410
2,4-Dinitrophenol	980	U	920	920	920	990
2,4-Dinitrotoluene	400	U	380	380	380	410
2,6-Dinitrotoluene	400	U	380	380	380	410
2-Chloronaphthalene	400	U	380	380	380	410
2-Chlorophenol	400	U	380	380	380	410
2-Methyl-4,6-Dinitrophenol	980	U	920	920	920	990
2-Methylnaphthalene	400	U	380	380	380	410
2-Methylphenol	400	U	380	380	380	410
2-Nitroaniline	980	U	920	920	920	990
2-Nitrophenol	400	U	380	380	380	410
3,3'-Dichlorobenzidine	400	U	380	380	380	410

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB7		SB8		SB9		SB10		SB11		SB13	
	PC-P1-SB7-SS03-04		PC-P1-SB8-SS03-04		PC-P1-SB9-SS03-04		PC-P1-SB10-SS03-04		PC-P1-SB11-SS03-04		PC-P1-SB13-SS03-04	
	08/24/93		08/24/93		08/24/93		08/24/93		08/24/93		08/24/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
3-Nitroaniline	980	U	950	U	920	U	920	U	920	U	990	U
4-Bromophenyl phenyl ether	400	U	390	U	380	U	380	U	380	U	410	U
4-Chloro-3-methyl phenol	400	U	390	U	380	U	380	U	380	U	410	U
4-Chloroaniline	400	U	390	U	380	U	380	U	380	U	410	U
4-Chlorophenyl phenyl ether	400	U	390	U	380	U	380	U	380	U	410	U
4-Methylphenol	400	U	390	U	380	U	380	U	380	U	410	U
4-Nitroaniline	980	U	950	U	920	U	920	U	920	U	990	U
4-Nitrophenol	980	U	950	U	920	U	920	U	920	U	990	U
Acenaphthene	400	U	390	U	380	U	380	U	380	U	410	U
Acenaphthylene	400	U	390	U	380	U	380	U	380	U	410	U
Anthracene	400	U	390	U	380	U	380	U	380	U	410	U
Benzo(a)anthracene	400	U	390	U	380	U	380	U	380	U	410	U
Benzo(a)pyrene	400	U	390	U	380	U	380	U	380	U	410	U
Benzo(b)fluoranthene	400	U	390	U	380	U	380	U	380	U	410	U
Benzo(k)fluoranthene	400	U	390	U	380	U	380	U	380	U	410	U
Butyl benzyl phthalate	400	U	390	U	380	U	380	U	380	U	410	U
Carbazole	400	U	390	U	380	U	380	U	380	U	410	U
Chrysene	400	U	390	U	380	U	380	U	380	U	410	U
Di-n-butyl phthalate	400	U	390	U	380	U	380	U	380	U	410	U
Di-n-octyl phthalate	400	U	390	U	380	U	380	U	380	U	410	U
Dibenzo(a,h)anthracene	400	U	390	U	380	U	380	U	380	U	410	U
Dibenzofuran	400	U	390	U	380	U	380	U	380	U	410	U
Diethyl phthalate	400	U	390	U	380	U	380	U	380	U	410	U
Dimethyl phthalate	400	U	390	U	380	U	380	U	380	U	410	U
Fluoranthene	400	U	390	U	380	U	380	U	380	U	410	U
Fluorene	400	U	390	U	380	U	380	U	380	U	410	U
Hexachlorobenzene	400	U	390	U	380	U	380	U	380	U	410	U
Hexachlorobutadiene	400	U	390	U	380	U	380	U	380	U	410	U
Hexachlorocyclopentadiene	400	U	390	U	380	U	380	U	380	U	410	U
Hexachloroethane	400	U	390	U	380	U	380	U	380	U	410	U
Indeno(1,2,3-c,d)pyrene	400	U	390	U	380	U	380	U	380	U	410	U
Isophorone	400	U	390	U	380	U	380	U	380	U	410	U
N-Nitrosodi-N-Propylamine	400	U	390	U	380	U	380	U	380	U	410	U
N-Nitrosodiphenylamine	400	U	390	U	380	U	380	U	380	U	410	U
Naphthalene	400	U	390	U	380	U	380	U	380	U	410	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB2		SB2		SB3		SB3		SB3		SB4	
SAMPLE ID:		PC-MP2-SB2-SS00-02		PC-MP2-SB2-SS04-05		PC-MP2-SB3-SS00-02		PC-MP2-SB3-SS04-05		PC-MP2-SB3-SS05-07		PC-MP2-SB4-SS00-02	
COLLECTION DATE:		08/17/93		08/17/93		08/17/93		08/17/93		08/17/93		08/17/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg												
1,2-Dichlorobenzene	ug/kg	1.50	U	1.40	U	1.40	U	1.40	U	1.40	U	1.50	U
1,2-Dimethylbenzene	ug/kg	1.30	U	1.20	U	1.20	U	1.20	U	1.20	U	1.30	U
1,3-Dichlorobenzene	ug/kg	1.90	U	1.90	U	1.80	U	1.90	U	1.90	U	1.90	U
1,3-Dimethylbenzene	ug/kg	-		-		-		-		-		-	
1,3/1,4-Dimethylbenzene	ug/kg	3.40	U	3.30	U	3.20	U	3.30	U	3.30	U	3.30	U
1,4-Dichlorobenzene	ug/kg	1.90	U	1.90	U	1.80	U	1.90	U	1.90	U	1.90	U
1,4-Dimethylbenzene	ug/kg	-		-		-		-		-		-	
Benzene	ug/kg	1.50	U	1.40	U	1.40	U	1.40	U	1.40	U	1.50	U
Chlorobenzene	ug/kg	1.90	U	1.90	U	1.80	U	1.90	U	1.90	U	1.90	U
Ethylbenzene	ug/kg	1.90	U	1.90	U	1.80	U	1.90	U	1.90	U	1.90	U
Methyl-t-Butyl Ether	ug/kg	12	U	11	U	11	U	11	U	11	U	11	U
Styrene	ug/kg	1.60	U	1.50	U	1.50	U	1.50	U	1.50	U	1.60	U
Toluene	ug/kg	5.60	U	5.50	U	5.30	U	5.50	U	0.17		5.50	U
CLP 3/90													
1,2,4-Trichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
1,2-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
1,3-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
1,4-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,4,5-Trichlorophenol	ug/kg	840	U	820	U	820	U	820	U	820	U	830	U
2,4,6-Trichlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,4-Dichlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,4-Dimethylphenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,4-Dinitrophenol	ug/kg	840	U	820	U	820	U	820	U	820	U	830	U
2,4-Dinitrotoluene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,6-Dinitrotoluene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Chloronaphthalene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Chlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Methyl-4,6-Dinitrophenol	ug/kg	840	U	820	U	820	U	820	U	820	U	830	U
2-Methylnaphthalene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Methylphenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Nitroaniline	ug/kg	840	U	820	U	820	U	820	U	820	U	830	U
2-Nitrophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
3,3'-Dichlorobenzidine	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB7 SB8 SB9 SB10 SB11 SB13
SAMPLE ID: PC-P1-SB7-SS03-04 PC-P1-SB8-SS03-04 PC-P1-SB9-SS03-04 PC-P1-SB10-SS03-04 PC-P1-SB11-SS03-04 PC-P1-SB13-SS03-04
COLLECTION DATE: 08/24/93 08/24/93 08/24/93 08/24/93 08/24/93 08/24/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Nitrobenzene	400	U	390	U	380	U	380	U	380	U	410	U
Pentachlorophenol	980	U	950	U	920	U	920	U	920	U	990	U
Phenanthrene	400	U	390	U	380	U	380	U	380	U	410	U
Phenol	400	U	390	U	380	U	380	U	380	U	410	U
Pyrene	400	U	390	U	380	U	380	U	380	U	410	U
bis(2-Chloroethoxy)methane	400	U	390	U	380	U	380	U	380	U	410	U
bis(2-Chloroethyl) ether	400	U	390	U	380	U	380	U	380	U	410	U
bis(2-Ethylhexyl)phthalate	400	U	390	U	380	U	380	U	380	U	410	U
METALS												
Aluminum	-	UL	5.40	UL	5.20	UL	5.20	UL	5.30	UL	5.60	U
Antimony	5.50	UL	0.48	U	0.71	0	0.46	UL	0.87	OB	0.50	UL
Arsenic	0.51	0	-	-	-	-	-	-	-	-	-	-
Barium	-	U	-	U	-	U	-	U	-	U	-	U
Beryllium	0.49	U	0.48	U	0.46	U	0.46	U	0.47	U	0.50	U
Cadmium	0.61	UL	0.60	UL	0.57	UL	0.58	U	0.58	U	0.62	U
Calcium	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	3.50	mg/kg	1.30	mg/kg	4.70	mg/kg	2.10	L	3.70	L	3.70	L
Chromium, Hexavalent	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Cobalt	-	-	-	-	-	-	-	-	-	-	-	-
Copper	1.80	U	1.80	U	1.70	U	1.70	U	1.80	U	1.90	U
Iron	-	-	-	-	-	-	-	-	-	-	-	-
Lead	1.90	mg/kg	1	mg/kg	3	mg/kg	0.98	K	2.30	J	1.90	K
Magnesium	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	0.12	U	0.12	U	0.11	U	0.12	U	0.12	U	0.12	U
Nickel	4.20	U	4.20	U	4	U	4	UL	4.10	(L)	4.70	(L)
Potassium	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	0.36	U	0.36	U	0.34	U	0.35	U	0.35	UL	0.37	UL
Silver	0.49	U	0.48	U	0.46	U	0.46	U	0.47	U	0.50	U
Sodium	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	0.36	U	0.36	U	0.34	U	0.35	UL	0.35	UL	0.37	UL
Vanadium	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	4.70	B	2.50	B	5.70	B	3	B	4.50	B	3.50	B
TPH	9.70		14.30		32.50		9.50		6.30	U	47.40	
Total Petroleum Hydrocarbons												

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB2 SB3 SB4
SAMPLE ID: PC-MP2-SB2-SS00-02 PC-MP2-SB3-SS00-02 PC-MP2-SB4-SS00-02
COLLECTION DATE: 08/17/93 08/17/93 08/17/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg	0.95	U	0.93	U	0.92	U	0.93	U	0.93	U
1,1,1,2-Tetrachloroethane	0.36	B	0.38	B	2.80	U	0.50	B	0.38	B
1,1,1-Trichloroethane	0.63	U	0.62	U	0.61	U	0.62	U	0.62	U
1,1,2,2-Tetrachloroethane	0.89	U	0.88	U	0.87	U	0.88	U	0.88	U
1,1,2-Trichloroethane	0.79	U	0.77	U	0.76	U	0.77	U	0.77	U
1,1-Dichloroethane	0.89	U	0.88	U	0.86	U	0.88	U	0.88	U
1,1-Dichloroethylene	0.95	U	0.93	U	0.92	U	0.93	U	0.93	U
1,2,3-Trichloropropane	1.40	U	1.30	U	1.30	U	1.30	U	1.30	U
1,2-Dibromoethane	1.50	U	1.40	U	1.40	U	1.40	U	1.40	U
1,2-Dichlorobenzene	0.68	U	0.67	U	0.66	U	0.67	U	0.67	U
1,2-Dichloroethane	0.68	U	0.67	U	0.66	U	0.67	U	0.67	U
1,2-Dichloropropane	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U
1,2-trans-Dichloroethylene	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U
1,3-Dichlorobenzene	1	U	0.98	U	0.97	U	0.98	U	0.98	U
1,3-cis-Dichloropropylene	0.89	U	0.88	U	0.87	U	0.88	U	0.88	U
1,3-trans-Dichloropropylene	1.50	U	1.40	U	1.40	U	1.40	U	1.40	U
1,4-Dichlorobenzene	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U
2-Chloroethylvinyl ether	1.10	U	1	U	1	U	1	U	1	U
2-Chlorotoluene	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U
4-Chlorotoluene	0.79	U	0.77	U	0.77	U	0.77	U	0.77	U
Bromobenzene	0.95	U	0.93	U	0.92	U	0.93	U	0.93	U
Bromochloromethane	1.10	U	1	U	1	U	1	U	1	U
Bromodichloromethane	0.95	U	0.93	U	0.92	U	0.93	U	0.93	U
Bromoform	0.68	U	0.67	U	0.66	U	0.67	U	0.67	U
Carbon Tetrachloride	0.95	U	0.93	U	0.92	U	0.93	U	0.93	U
Chlorobenzene	2.70	U	2.70	U	2.60	U	2.70	U	2.70	U
Chloroethane	0.56	B	0.31	B	0.30	B	0.31	B	0.47	B
Chloroform	0.84	U	0.82	U	0.82	U	0.82	U	0.82	U
Dibromochloromethane	0.95	U	0.93	U	0.92	U	0.93	U	0.93	U
Dibromomethane	2.90	U	2.90	U	2.80	U	2.90	U	2.90	U
Methyl bromide	2.60	U	2.60	U	2.50	U	2.60	U	2.60	U
Methyl chloride	7.20	B	3.20	B	3.80	B	1.40	B	1.40	B
Methylene chloride	0.84	U	0.82	U	0.82	U	0.82	U	0.82	U
Tetrachloroethylene	0.84	U	0.82	U	0.82	U	0.82	U	0.82	U
Trichloroethylene	2.70	U	2.70	U	2.60	U	2.70	U	2.70	U
Vinyl chloride										

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB2		SB2		SB3		SB3		SB4	
SAMPLE ID:		PC-MP2-SB2-SS00-02		PC-MP2-SB2-SS04-05		PC-MP2-SB3-SS00-02		PC-MP2-SB3-SS04-05		PC-MP2-SB4-SS00-02	
COLLECTION DATE:		08/17/93		08/17/93		08/17/93		08/17/93		08/17/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
3-Nitroaniline	ug/kg	840	U	820	U	820	U	820	U	830	U
4-Bromophenyl phenyl ether	ug/kg	350	U	340	U	340	U	340	U	340	U
4-Chloro-3-methyl phenol	ug/kg	350	U	340	U	340	U	340	U	340	U
4-Chloroaniline	ug/kg	350	U	340	U	340	U	340	U	340	U
4-Chlorophenyl phenyl ether	ug/kg	350	U	340	U	340	U	340	U	340	U
4-Methylphenol	ug/kg	350	U	340	U	340	U	340	U	340	U
4-Nitroaniline	ug/kg	840	U	820	U	820	U	820	U	830	U
4-Nitrophenol	ug/kg	840	U	820	U	820	U	820	U	830	U
Acenaphthene	ug/kg	350	U	340	U	340	U	340	U	340	U
Acenaphthylene	ug/kg	350	U	340	U	340	U	340	U	340	U
Anthracene	ug/kg	350	U	340	U	340	U	340	U	340	U
Benzo(a)anthracene	ug/kg	350	U	340	U	340	U	340	U	340	U
Benzo(a)pyrene	ug/kg	350	U	340	U	340	U	340	U	340	U
Benzo(b)fluoranthene	ug/kg	350	U	340	U	340	U	340	U	340	U
Benzo(ghi)perylene	ug/kg	350	U	340	U	340	U	340	U	340	U
Benzo(k)fluoranthene	ug/kg	350	U	340	U	340	U	340	U	340	U
Butyl benzyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U
Carbazole	ug/kg	350	U	340	U	340	U	340	U	340	U
Chrysene	ug/kg	350	U	340	U	340	U	340	U	340	U
Di-n-butyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U
Di-n-octyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U
Dibenzo(a,h)anthracene	ug/kg	350	U	340	U	340	U	340	U	340	U
Dibenzofuran	ug/kg	350	U	340	U	340	U	340	U	340	U
Diethyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U
Dimethyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U
Fluoranthene	ug/kg	350	U	340	U	340	U	340	U	340	U
Fluorene	ug/kg	350	U	340	U	340	U	340	U	340	U
Hexachlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U
Hexachlorobutadiene	ug/kg	350	U	340	U	340	U	340	U	340	U
Hexachlorocyclopentadiene	ug/kg	350	U	340	U	340	U	340	U	340	U
Hexachloroethane	ug/kg	350	U	340	U	340	U	340	U	340	U
Indeno(1,2,3-c,d)pyrene	ug/kg	350	U	340	U	340	U	340	U	340	U
Isophorone	ug/kg	350	U	340	U	340	U	340	U	340	U
N-Nitrosodi-N-Propylamine	ug/kg	350	U	340	U	340	U	340	U	340	U
N-Nitrosodiphenylamine	ug/kg	350	U	340	U	340	U	340	U	340	U
Naphthalene	ug/kg	350	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB2		SB2		SB3		SB3		SB3		SB4	
SAMPLE ID:		PC-MP2-SB2-SS00-02		PC-MP2-SB2-SS04-05		PC-MP2-SB3-SS00-02		PC-MP2-SB3-SS04-05		PC-MP2-SB3-SS05-07		PC-MP2-SB4-SS00-02	
COLLECTION DATE:		08/17/93		08/17/93		08/17/93		08/17/93		08/17/93		08/17/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Nitrobenzene		ug/kg		350	U	340	U	340	U	340	U	340	U
Pentachlorophenol		ug/kg		840	U	820	U	820	U	820	U	830	U
Phenanthrene		ug/kg		350	U	340	U	340	U	340	U	340	U
Phenol		ug/kg		350	U	340	U	340	U	340	U	340	U
Pyrene		ug/kg		350	U	340	U	340	U	340	U	340	U
bis(2-Chloroethoxy)methane		ug/kg		350	U	340	U	340	U	340	U	340	U
bis(2-Chloroethyl) ether		ug/kg		350	U	340	U	340	U	340	U	340	U
bis(2-Ethylhexyl)phthalate		ug/kg		350	U	340	U	340	U	340	U	340	U
METALS													
Aluminum		mg/kg		-	UL	4.60	UL	4.60	UL	4.60	UL	-	UL
Antimony		mg/kg		4.70	OB	0.48	OB	0.49	OB	0.49	OB	4.70	OB
Arsenic		mg/kg		0.58	OB	-	-	-	-	-	-	0.89	OB
Barium		mg/kg		-	-	-	-	-	-	-	-	-	-
Beryllium		mg/kg		0.42	U	0.41	U	0.41	U	0.41	U	0.41	U
Cadmium		mg/kg		0.53	U	0.51	U	0.51	U	0.51	U	0.52	U
Calcium		mg/kg		-	-	-	-	-	-	-	-	-	-
Chromium		mg/kg		1.30	L	3.80	L	1.70	L	3.30	L	3.40	L
Chromium, Hexavalent		mg/l		0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Cobalt		mg/kg		-	-	-	-	-	-	-	-	-	-
Copper		mg/kg		2.10	0	1.80	0	1.50	U	1.80	0	1.60	U
Iron		mg/kg		-	-	-	-	-	-	-	-	-	-
Lead		mg/kg		6	K	1	K	1.30	J	0.82	K	1.90	K
Magnesium		mg/kg		-	-	-	-	-	-	-	-	-	-
Manganese		mg/kg		-	-	-	-	-	-	-	-	-	-
Mercury		mg/kg		0.11	U	0.10	U	0.10	U	0.10	U	0.10	U
Nickel		mg/kg		3.90	(L)	3.60	UL	4.30	L	5.30	L	4.90	L
Potassium		mg/kg		-	-	-	-	-	-	-	-	-	-
Selenium		mg/kg		0.32	UL	0.31	UL	0.31	U	0.31	U	0.31	UL
Silver		mg/kg		0.42	U	0.41	U	0.41	U	0.41	U	0.41	U
Sodium		mg/kg		-	-	-	-	-	-	-	-	-	-
Thallium		mg/kg		0.32	UL	0.31	UL	0.31	UL	0.31	UL	0.31	UL
Vanadium		mg/kg		-	-	-	-	-	-	-	-	-	-
Zinc		mg/kg		13	B	4.50	B	5.50	B	2.90	B	6.90	B
TPH		mg/kg		11.10		53.10		15.40		42.60		26.80	
Total Petroleum Hydrocarbons		mg/kg								12			

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB4 SB5 SB6 SB7
SAMPLE ID: PC-MP2-SB4-SS03-04 PC-MP2-SB4-SS04-05 PC-MP2-SB5-SS04-05 PC-MP2-SB6-SS05-06 PC-MP2-SB7-SS05-06
COLLECTION DATE: 08/14/93 08/17/93 08/17/93 08/15/93 08/15/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg	0.94	UJ	0.93	U	0.95	U	0.91	U	0.94	U
1,1,1,2-Tetrachloroethane	2.80	UJ	2.80	U	0.34	B	0.40	B	2.80	UJ
1,1,1-Trichloroethane	0.63	UJ	0.62	U	0.63	U	0.61	U	0.63	U
1,1,2,2-Tetrachloroethane	0.89	UJ	0.88	U	0.89	U	0.86	U	0.89	U
1,1,2-Trichloroethane	0.78	UJ	0.77	U	0.79	U	0.76	U	0.78	U
1,1-Dichloroethane	0.89	UJ	0.88	U	0.89	U	0.86	U	0.89	U
1,1-Dichloroethylene	0.94	UJ	0.93	U	0.95	U	0.91	U	0.94	U
1,2,3-Trichloropropane	1.40	UJ	1.30	U	1.40	U	1.30	U	1.40	U
1,2-Dibromoethane	1.50	UJ	1.40	U	1.50	UJ	1.40	U	1.50	U
1,2-Dichlorobenzene	0.68	UJ	0.67	U	0.68	U	0.66	U	0.68	U
1,2-Dichloroethane	0.68	UJ	0.67	U	0.68	U	0.66	U	0.68	U
1,2-Dichloropropane	1.10	UJ	1.10	U	1.20	U	1.10	U	1.10	U
1,2-trans-Dichloroethylene	1.10	UJ	1.10	U	1.20	UJ	1.10	U	1.10	U
1,3-Dichlorobenzene	0.99	UJ	0.98	U	1	U	0.96	U	0.99	U
1,3-cis-Dichloropropylene	0.89	UJ	0.88	U	0.89	U	0.86	U	0.89	U
1,3-trans-Dichloropropylene	1.50	UJ	1.40	U	1.50	UJ	1.40	U	1.50	U
1,4-Dichlorobenzene	1.10	UJ	1.10	U	1.20	U	1.10	U	1.10	U
2-Chloroethylvinyl ether	1	UJ	1	U	1.10	UJ	1	U	1	U
2-Chlorotoluene	1.10	UJ	1.10	U	1.20	UJ	1.10	U	1.10	U
4-Chlorotoluene	0.78	UJ	0.77	U	0.79	UJ	0.76	U	0.78	U
Bromobenzene	0.94	UJ	0.93	U	0.95	U	0.91	U	0.94	U
Bromochloromethane	1	UJ	1	U	1.10	U	1	U	1	U
Bromodichloromethane	0.94	UJ	0.93	U	0.95	U	0.91	U	0.94	U
Bromoform	0.68	UJ	0.67	U	0.68	U	0.66	U	0.68	U
Carbon Tetrachloride	0.94	UJ	0.93	U	0.95	U	0.91	U	0.94	U
Chlorobenzene	2.70	UJ	2.70	U	2.70	UJ	2.60	U	2.70	U
Chloroethane	0.90	B	0.82	B	0.84	B	0.81	B	0.83	B
Chloroform	0.83	UJ	0.82	U	0.84	U	0.81	U	0.85	U
Dibromochloromethane	0.94	UJ	0.93	U	0.95	U	0.91	U	0.94	U
Dibromomethane	2.90	UJ	2.90	U	2.90	U	2.80	U	2.90	U
Methyl bromide	2.60	UJ	2.60	U	2.60	U	2.50	U	2.60	U
Methyl chloride	3	B	4.70	B	2.70	B	1.70	B	7.60	B
Methylene chloride	0.83	UJ	0.82	U	0.84	U	0.81	U	0.83	U
Tetrachloroethylene	0.83	UJ	0.82	U	0.84	U	0.81	U	0.83	U
Trichloroethylene	2.70	UJ	2.70	U	2.70	U	2.60	U	2.70	U
Vinyl chloride										

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB4		SB4		SB5		SB5		SB6		SB7	
	PC-MP2-SB4-SS03-04		PC-MP2-SB4-SS04-05		PC-MP2-SB5-SS00-02		PC-MP2-SB5-SS04-05		PC-MP2-SB6-SS05-06		PC-MP2-SB7-SS05-06	
	08/14/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	08/15/93	08/15/93	08/15/93	08/15/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	ug/kg	1.50	UJ	1.40	U	UJ	1.50	UJ	1.40	U	1.50	U
1,2-Dimethylbenzene	ug/kg	1.30	UJ	1.20	U	UJ	1.30	UJ	1.20	U	1.30	U
1,3-Dichlorobenzene	ug/kg	1.90	UJ	1.90	U	UJ	1.90	UJ	1.90	U	1.90	U
1,3-Dimethylbenzene	ug/kg	-		-			-		-		-	
1,3/1,4-Dimethylbenzene	ug/kg	3.30	UJ	3.30	U	UJ	3.40	UJ	3.20	U	3.40	U
1,4-Dichlorobenzene	ug/kg	1.90	UJ	1.90	U	UJ	1.90	UJ	1.80	U	1.90	U
1,4-Dimethylbenzene	ug/kg	-		-			-		-		-	
Benzene	ug/kg	1.50	UJ	1.40	U	UJ	1.50	UJ	1.40	U	1.50	U
Chlorobenzene	ug/kg	1.90	UJ	1.90	U	UJ	1.90	UJ	1.80	U	1.90	U
Ethylbenzene	ug/kg	1.90	UJ	1.90	U	UJ	1.90	UJ	1.80	U	1.90	U
Methyl-t-Butyl Ether	ug/kg	11	UJ	11	U	UJ	12	UJ	11	U	12	U
Styrene	ug/kg	1.60	UJ	1.50	U	UJ	1.60	UJ	1.50	U	1.60	U
Toluene	ug/kg	0.53	B	5.50	U	UJ	5.60	UJ	5.40	U	0.25	B
CLP 3/90												
1,2,4-Trichlorobenzene	ug/kg	340	U	340	U	U	350	U	330	U	350	U
1,2-Dichlorobenzene	ug/kg	340	U	340	U	U	350	U	330	U	350	U
1,3-Dichlorobenzene	ug/kg	340	U	340	U	U	350	U	330	U	350	U
1,4-Dichlorobenzene	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2,4,5-Trichlorophenol	ug/kg	830	U	820	U	U	840	U	810	U	840	U
2,4,6-Trichlorophenol	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2,4-Dichlorophenol	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2,4-Dimethylphenol	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2,4-Dinitrophenol	ug/kg	830	U	820	U	U	840	U	810	U	840	U
2,6-Dinitrotoluene	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2,6-Dinitrotoluene	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2-Chloronaphthalene	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2-Chlorophenol	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2-Methyl-4,6-Dinitrophenol	ug/kg	830	U	820	U	U	840	U	810	U	840	U
2-Methylnaphthalene	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2-Methylphenol	ug/kg	340	U	340	U	U	350	U	330	U	350	U
2-Nitroaniline	ug/kg	830	U	820	U	U	840	U	810	U	840	U
2-Nitrophenol	ug/kg	340	U	340	U	U	350	U	330	U	350	U
3,3'-Dichlorobenzidine	ug/kg	340	U	340	U	U	350	U	330	U	350	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SB4		SB4		SB5		SB5		SB6		SB7	
SAMPLE ID:	PC-MP2-SB4-SS03-04		PC-MP2-SB4-SS04-05		PC-MP2-SB5-SS00-02		PC-MP2-SB5-SS04-05		PC-MP2-SB6-SS05-06		PC-MP2-SB7-SS05-06	
COLLECTION DATE:	08/14/93		08/17/93		08/17/93		08/17/93		08/15/93		08/15/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
3-Nitroaniline	ug/kg	830	U	820	840	U	810	U	830	U	840	U
4-Bromophenyl phenyl ether	ug/kg	340	U	340	350	U	330	U	340	U	350	U
4-Chloro-3-methyl phenol	ug/kg	340	U	340	350	U	330	U	340	U	350	U
4-Chloroaniline	ug/kg	340	U	340	350	U	330	U	340	U	350	U
4-Chlorophenyl phenyl ether	ug/kg	340	U	340	350	U	330	U	340	U	350	U
4-Methylphenol	ug/kg	340	U	340	350	U	330	U	340	U	350	U
4-Nitroaniline	ug/kg	830	U	820	840	U	810	U	830	U	840	U
4-Nitrophenol	ug/kg	830	U	820	840	U	810	U	830	U	840	U
Acenaphthene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Acenaphthylene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Anthracene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Benzo(a)anthracene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Benzo(a)pyrene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Benzo(b)fluoranthene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Benzo(ghi)perylene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Benzo(k)fluoranthene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Butyl benzyl phthalate	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Carbazole	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Chrysene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Di-n-butyl phthalate	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Di-n-octyl phthalate	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Dibenzo(a,h)anthracene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Dibenzofuran	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Diethyl phthalate	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Dimethyl phthalate	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Fluoranthene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Fluorene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Hexachlorobenzene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Hexachlorobutadiene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Hexachlorocyclopentadiene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Hexachloroethane	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Indeno(1,2,3-c,d)pyrene	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Isophorone	ug/kg	340	U	340	350	U	330	U	340	U	350	U
N-Nitrosodi-N-Propylamine	ug/kg	340	U	340	350	U	330	U	340	U	350	U
N-Nitrosodiphenylamine	ug/kg	340	U	340	350	U	330	U	340	U	350	U
Naphthalene	ug/kg	340	U	340	350	U	330	U	340	U	350	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB4		SB4		SB5		SB5		SB6		SB7	
SAMPLE ID:		PC-MP2-SB4-SS03-04		PC-MP2-SB4-SS04-05		PC-MP2-SB5-SS00-02		PC-MP2-SB5-SS04-05		PC-MP2-SB6-SS05-06		PC-MP2-SB7-SS05-06	
COLLECTION DATE:		08/14/93		08/17/93		08/17/93		08/17/93		08/15/93		08/15/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Nitrobenzene		340	U	340	U	350	U	330	U	340	U	350	U
Pentachlorophenol		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
Phenanthrene		830	U	820	U	840	U	810	U	830	U	840	U
Phenol		340	U	340	U	350	U	330	U	340	U	350	U
Pyrene		340	U	340	U	350	U	330	U	340	U	350	U
bis(2-Chloroethoxy)methane		340	U	340	U	350	U	330	U	340	U	350	U
bis(2-Chloroethyl) ether		340	U	340	U	350	U	330	U	340	U	350	U
bis(2-Ethylhexyl)phthalate		340	U	340	U	350	U	330	U	340	U	350	U
METALS													
Aluminum		4.70	UL	4.60	UL	4.70	UL	4.60	UL	4.70	UL	4.90	UL
Antimony		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Arsenic		0.79	OB	0.41	UL	0.68	OB	0.41	OB	0.61	OB	0.71	OB
Barium		-		-		-		-		-		-	
Beryllium		0.42	U	0.41	U	0.42	U	0.41	U	0.42	U	0.43	U
Cadmium		0.52	UL	0.52	U	0.53	U	0.51	U	0.52	UL	0.54	UL
Calcium		-		-		-		-		-		-	
Chromium		2.50		3.10	L	5.10	L	2.50	L	2.10		4.10	
Chromium, Hexavalent		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Cobalt		0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Copper		-		-		-		-		-		-	
Iron		1.60	U	2	0	2.10	0	1.70	0	1.60	U	2.40	0
Lead		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Magnesium		1	B	1.20	K	2.50	J	1.20	J	0.94	B	1.10	B
Manganese		-		-		-		-		-		-	
Mercury		0.10	U	0.10	U	0.11	U	0.10	U	0.10	U	0.11	U
Nickel		3.70	U	5	L	6.90	L	4	(L)	3.60	U	3.80	U
Potassium		-		-		-		-		-		-	
Selenium		0.31	U	0.31	UL	0.32	UL	0.30	U	0.31	U	0.32	U
Silver		0.42	UL	0.41	U	0.42	U	0.41	U	0.42	UL	0.43	UL
Sodium		-		-		-		-		-		-	
Thallium		0.31	UL	0.31	UL	0.32	UL	0.30	UL	0.31	UL	0.32	UL
Vanadium		-		-		-		-		-		-	
Zinc		13.50	B	6	B	8.50	B	3.50	B	6.70	B	9.60	B
TPH													
Total Petroleum Hydrocarbons		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
		13.50		9.40		23.20		193		43.50		26.40	

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB8 SB9 SB10 SB11
SAMPLE ID: PC-MP2-SB8-SS05-06 PC-MP2-SB9-SS03-04 PC-MP2-SB10-SS03-04 PC-MP2-SB10-SS08-10 PC-CG3-SB11-SS04-06
COLLECTION DATE: 08/15/93 08/16/93 09/13/93 08/26/93

UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
		ug/kg		ug/kg		ug/kg		ug/kg		ug/kg	
8010	1,1,1,2-Tetrachloroethane	0.95	U	0.94	U	0.93	U	0.92	U	0.93	U
	1,1,1-Trichloroethane	0.19		0.05	B	2.80	U	2.80	U	0.11	B
	1,1,2,2-Tetrachloroethane	0.63	U	0.63	U	0.62	U	0.61	U	0.62	U
	1,1,2-Trichloroethane	0.89	U	0.89	U	0.88	U	0.87	U	0.88	U
	1,1-Dichloroethane	0.79	U	0.78	U	0.77	U	0.77	U	0.77	U
	1,1-Dichloroethylene	0.89	U	0.89	U	0.88	U	0.87	U	0.88	U
	1,2,3-Trichloropropane	0.95	U	0.94	U	0.93	U	0.92	U	0.93	U
	1,2-Dibromoethane	1.40	U	1.40	U	1.30	U	1.30	U	1.30	U
	1,2-Dichlorobenzene	1.50	U	1.50	U	1.40	U	1.40	U	1.40	U
	1,2-Dichloroethane	0.68	U	0.68	U	0.67	U	0.66	U	0.67	U
	1,2-Dichloropropane	0.68	U	0.68	U	0.67	U	0.66	U	0.67	U
	1,2-trans-Dichloroethylene	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U
	1,3-Dichlorobenzene	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U
	1,3-cis-Dichloropropylene	1	U	0.99	U	0.98	U	0.97	U	0.98	U
	1,3-trans-Dichloropropylene	0.89	U	0.89	U	0.88	U	0.87	U	0.88	U
	1,4-Dichlorobenzene	1.50	U	1.50	U	1.40	U	1.40	U	1.40	U
	2-Chloroethylvinyl ether	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U
	2-Chlorotoluene	1.10	U	1	U	1	U	1	U	1	U
	4-Chlorotoluene	1.20	U	1.10	U	1.10	U	1.10	U	1.10	U
	Bromobenzene	0.79	U	0.78	U	0.77	U	0.77	U	0.77	U
	Bromochloromethane	0.95	U	0.94	U	0.93	U	0.92	U	0.93	U
	Bromodichloromethane	1.10	U	1	U	1	U	1	U	1	U
	Bromoform	0.95	U	0.94	U	0.93	U	0.92	U	0.93	U
	Carbon Tetrachloride	0.68	U	0.68	U	0.67	U	0.66	U	0.67	U
	Chlorobenzene	0.95	U	0.94	U	0.93	U	0.92	U	0.93	U
	Chloroethane	2.70	U	2.70	U	2.70	U	2.70	U	2.70	U
	Chloroform	0.59	B	0.57	B	0.63	B	0.30	B	0.31	B
	Dibromochloromethane	0.84	U	0.83	U	0.82	U	0.82	U	0.82	U
	Dibromomethane	0.95	U	0.94	U	0.93	U	0.92	U	0.93	U
	Methyl bromide	2.90	U	2.90	U	2.90	U	2.90	U	2.90	U
	Methyl chloride	2.60	U	2.60	U	2.60	U	2.60	U	2.60	U
	Methylene chloride	1.40	B	5.70	B	2	B	5.20	B	4.10	B
	Tetrachloroethylene	0.84	U	0.83	U	0.82	U	0.82	U	0.82	U
	Trichloroethylene	0.84	U	0.83	U	0.82	U	0.82	U	0.82	U
	Vinyl chloride	2.70	U	2.70	U	2.70	U	2.70	U	2.70	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB8		SB9		SB9		SB10		SB10		SB11	
SAMPLE ID:		PC-MP2-SB8-SS05-06		PC-MP2-SB9-SS03-04		PC-MP2-SB9-SS04-06		PC-MP2-SB10-SS03-04		PC-MP2-SB10-SS08-10		PC-CG3-SB11-SS04-06	
COLLECTION DATE:		08/15/93		08/16/93		08/16/93		09/13/93		09/13/93		08/26/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg	0.03		1.50	UJ	2.50		0.12	U	1.40	U	0.12	B
1,2-Dichlorobenzene	ug/kg	0.12		1.30	UJ	1.20	U	1.20	U	0.14	B	0.12	B
1,2-Dimethylbenzene	ug/kg	1.90	U	1.90	UJ	1.90	U	1.80	U	1.90	U	1.90	U
1,3-Dichlorobenzene	ug/kg	-		-		-		-		-		-	
1,3-Dimethylbenzene	ug/kg	3.40	U	3.30	UJ	3.30	U	3.30	U	3.30	U	3.30	U
1,3/1,4-Dimethylbenzene	ug/kg	0.46	B	1.90	UJ	1.90	U	1.80	U	0.11	B	1.90	U
1,4-Dichlorobenzene	ug/kg	-		-		-		-		-		-	
1,4-Dimethylbenzene	ug/kg	1.50	U	1.50	UJ	1.40	U	1.40	U	1.40	U	1.40	U
Benzene	ug/kg	1.90	U	1.90	UJ	1.90	U	1.80	U	1.90	U	1.90	U
Chlorobenzene	ug/kg	1.90	U	1.90	UJ	1.90	U	1.80	U	1.90	U	1.90	U
Ethylbenzene	ug/kg	12	U	11	UJ	11	U	11	U	11	U	11	U
Methyl-t-Butyl Ether	ug/kg	1.60	U	1.60	UJ	1.50	U	1.50	U	1.50	U	1.50	U
Syrene	ug/kg	0.18	B	5.50	UJ	5.50	U	0.15	B	0.17	B	0.16	B
Toluene	ug/kg												
CLP 3/90	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
1,2,4-Trichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
1,2-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
1,3-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
1,4-Dichlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,4,5-Trichlorophenol	ug/kg	840	U	820	U	830	U	820	U	820	U	810	U
2,4,6-Trichlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,4-Dichlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,4-Dimethylphenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,4-Dinitrophenol	ug/kg	840	U	820	U	830	U	820	U	820	U	810	U
2,4-Dinitrotoluene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2,6-Dinitrotoluene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Chloronaphthalene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Chlorophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Methyl-4,6-Dinitrophenol	ug/kg	840	U	820	U	830	U	820	U	820	U	810	U
2-Methylnaphthalene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Methylphenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
2-Nitroaniline	ug/kg	840	U	820	U	830	U	820	U	820	U	810	U
2-Nitrophenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
3,3'-Dichlorobenzidine	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB8 SB9 SB10 SB11
SAMPLE ID: PC-MP2-SB8-SS05-06 PC-MP2-SB9-SS03-04 PC-MP2-SB9-SS04-06 PC-MP2-SB10-SS03-04 PC-MP2-SB10-SS08-10 PC-CG3-SB11-SS04-06
COLLECTION DATE: 08/15/93 08/16/93 08/16/93 09/13/93 09/13/93 08/26/93

UNITS:													
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
3-Nitroaniline	ug/kg	840	U	820	U	830	U	820	U	820	U	810	U
4-Bromophenyl phenyl ether	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
4-Chloro-3-methyl phenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
4-Chloroaniline	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
4-Chlorophenyl phenyl ether	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
4-Methylphenol	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
4-Nitroaniline	ug/kg	840	U	820	U	830	U	820	U	820	U	810	U
4-Nitrophenol	ug/kg	840	U	820	U	830	U	820	U	820	U	810	U
Acenaphthene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Acenaphthylene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Anthracene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(a)anthracene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(a)pyrene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(b)fluoranthene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(ghi)perylene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(k)fluoranthene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Butyl benzyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Carbazole	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Chrysene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Di-n-butyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Di-n-octyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Dibenzo(a,h)anthracene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Dibenzofuran	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Diethyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Dimethyl phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Fluoranthene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Fluorene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Hexachlorobenzene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Hexachlorobutadiene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Hexachlorocyclopentadiene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Hexachloroethane	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Indeno(1,2,3-c,d)pyrene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Isophorone	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
N-Nitrosodi-N-Propylamine	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
N-Nitrosodiphenylamine	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
Naphthalene	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB8 SB9 SB10 SB10 SB11
SAMPLE ID: PC-MP2-SB8-SS05-06 PC-MP2-SB9-SS03-04 PC-MP2-SB9-SS04-06 PC-MP2-SB10-SS03-04 PC-MP2-SB10-SS08-10 PC-CG3-SB11-SS04-06
COLLECTION DATE: 08/15/93 08/16/93 09/13/93 09/13/93 08/26/93

	SB8		SB9		SB9		SB10		SB10		SB11	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:												
Nitrobenzene	ug/kg	350	U	U	340	U	340	U	340	U	340	U
Pentachlorophenol	ug/kg	840	U	U	820	U	820	U	820	U	810	U
Phenanthrene	ug/kg	350	U	U	340	U	340	U	340	U	340	U
Phenol	ug/kg	350	U	U	340	U	340	U	340	U	340	U
Pyrene	ug/kg	350	U	U	340	U	340	U	340	U	340	U
bis(2-Chloroethoxy)methane	ug/kg	350	U	U	340	U	340	U	340	U	340	U
bis(2-Chloroethyl) ether	ug/kg	350	U	U	340	U	340	U	340	U	340	U
bis(2-Ethylhexyl)phthalate	ug/kg	350	U	U	340	U	340	U	340	U	340	U
METALS												
Aluminum	mg/kg	4.70	UL	UL	4.70	UL	4.80	UL	4.60	UL	4.60	UL
Antimony	mg/kg	0.58	OB	OB	0.62	OB	0.57	OB	0.75	(L)	0.48	0
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	0.42	U	U	0.42	U	0.42	U	0.41	U	0.41	U
Beryllium	mg/kg	0.52	UL	UL	0.52	UL	0.53	UL	0.51	UL	0.52	UL
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Calcium	mg/kg	3.70	-	-	2.70	-	3.10	-	2.50	J	3.20	-
Chromium	mg/kg	0.01	U	U	0.01	U	0.01	U	0.01	U	0.01	U
Chromium, Hexavalent	mg/l	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	1.60	U	U	2.10	0	1.60	U	1.80	0	2.70	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Iron	mg/kg	2.50	B	B	0.84	B	1	B	1.10	L	0.84	-
Lead	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Manganese	mg/kg	0.10	U	U	0.10	U	0.11	U	0.10	U	0.10	U
Mercury	mg/kg	3.70	U	U	3.60	U	3.70	U	3.60	U	3.60	U
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg	0.31	U	(L)	0.33	(L)	0.32	U	0.31	U	0.31	U
Selenium	mg/kg	0.42	UL	UL	0.42	UL	0.42	UL	0.41	U	0.41	U
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/kg	0.31	UL	UL	0.31	UL	0.32	UL	0.31	U	0.31	U
Thallium	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	10	B	B	5.40	B	4.60	B	15.30	-	14.80	B
Zinc	mg/kg	-	-	-	-	-	-	-	-	-	-	-
TPH	mg/kg	54	-	-	18.20	-	49.40	-	40.60	-	7.20	-
Total Petroleum Hydrocarbons	mg/kg	-	-	-	-	-	-	-	-	-	-	-

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB11 SB12 SB13 SB13 SB13 SB13
SAMPLE ID: PC-CG3-SB11-SS10-12 PC-CG3-SB12-SS04-06 PC-CG3-SB12-SS10-12 PC-CG3-SB13-SS02-04 PC-CG3-SB13-SS04-06 PC-CG3-SB13-SS08-10
COLLECTION DATE: 08/26/93 08/26/93 08/26/93 08/26/93 08/26/93 08/26/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg	0.94	UJ	0.93	U	0.95	U	0.95	U	0.93	U	0.93	U
1,1,1,2-Tetrachloroethane	2.80	UJ	0.09	B	0.19	B	2.80	U	0.14	B	0.18	B
1,1,1-Trichloroethane	0.63	UJ	0.62	U	0.63	U	0.63	U	0.33	J	0.62	U
1,1,2,2-Tetrachloroethane	0.89	UJ	0.88	U	0.89	U	0.89	U	0.88	U	0.88	U
1,1,2-Trichloroethane	0.78	UJ	0.77	U	0.79	U	0.79	U	0.77	U	0.77	U
1,1-Dichloroethane	0.89	UJ	0.88	U	0.89	U	0.89	U	0.88	U	0.88	U
1,1-Dichloroethylene	0.94	UJ	0.93	U	0.95	U	0.95	U	0.50	J	0.93	U
1,2,3-Trichloropropane	1.40	UJ	1.30	U	1.40	U	1.40	U	1.30	U	1.30	U
1,2-Dibromoethane	1.50	UJ	1.40	UJ	1.50	UJ	1.50	U	1.40	U	1.40	U
1,2-Dichlorobenzene	0.68	UJ	0.67	U	0.68	U	0.68	U	0.67	U	0.67	U
1,2-Dichloroethane	0.68	UJ	0.67	U	0.68	U	0.68	U	0.67	U	0.67	U
1,2-Dichloropropane	1.10	UJ	1.10	U	1.20	U	1.20	U	1.10	U	1.10	U
1,2-trans-Dichloroethylene	0.99	UJ	0.98	U	1	U	1	U	0.98	U	0.98	U
1,3-Dichlorobenzene	0.89	UJ	0.88	U	0.89	U	0.89	U	0.88	U	0.88	U
1,3-cis-Dichloropropylene	1.50	UJ	1.40	U	1.50	UJ	1.50	U	1.40	U	1.40	U
1,3-trans-Dichloropropylene	1.10	UJ	1.10	U	1.20	U	1.20	U	1.10	U	1.10	U
1,4-Dichlorobenzene	1	UJ	1	U	1.10	UJ	1.10	U	1	U	1	U
2-Chloroethylvinyl ether	1.10	UJ	1.10	U	1.10	UJ	1.10	U	1.10	U	1.10	U
2-Chlorotoluene	1.10	UJ	1.10	U	1.20	UJ	1.20	U	1.10	U	1.10	U
4-Chlorotoluene	0.78	UJ	0.77	U	0.79	UJ	0.79	U	0.77	U	0.77	U
Bromobenzene	0.94	UJ	0.93	U	0.95	U	0.95	U	0.93	U	0.93	U
Bromochloromethane	1	UJ	1	U	1.10	U	1.10	U	1	U	1	U
Bromodichloromethane	0.94	UJ	0.93	U	0.95	U	0.95	U	0.93	U	0.93	U
Bromoform	0.68	UJ	0.67	U	0.68	U	0.68	U	0.67	U	0.67	U
Carbon Tetrachloride	0.94	UJ	0.93	U	0.95	UJ	0.95	U	0.93	U	0.93	U
Chlorobenzene	2.70	UJ	2.70	U	2.70	UJ	2.70	U	2.70	U	2.70	U
Chloroethane	0.42	B	0.60	B	0.53	B	0.40	B	0.54	B	0.67	B
Chloroform	0.83	UJ	0.82	U	0.84	U	0.84	U	0.82	U	0.82	U
Dibromochloromethane	0.94	UJ	0.93	U	0.95	U	0.95	U	0.93	U	0.93	U
Dibromomethane	2.90	UJ	2.90	U	2.90	U	2.90	U	2.90	U	2.90	U
Methyl bromide	2.60	UJ	2.60	U	2.60	U	2.60	U	2.60	U	2.60	U
Methyl chloride	2.40	B	2.90	B	3.10	B	3.10	B	2.80	B	10	B
Methylene chloride	0.83	UJ	0.82	U	0.84	U	0.84	U	0.82	U	0.82	U
Tetrachloroethylene	0.83	UJ	0.82	U	0.84	U	0.84	U	0.20	J	0.82	U
Trichloroethylene	2.70	UJ	2.70	U	2.70	U	2.70	U	2.70	U	2.70	U
Vinyl chloride												

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SBI11 SBI12 SBI13 SBI13 SBI13 SBI13
SAMPLE ID: PC-CG3-SBI11-SS10-12 PC-CG3-SBI12-SS04-06 PC-CG3-SBI12-SS10-12 PC-CG3-SBI13-SS02-04 PC-CG3-SBI13-SS04-06 PC-CG3-SBI13-SS08-10
COLLECTION DATE: 08/26/93 08/26/93 08/26/93 08/26/93 08/26/93 08/26/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg		1.80	U	1.40	U	1.50	U	2.20	U	1.40	U
1,2-Dichlorobenzene	ug/kg		1.30	U	0.14	B	1.30	U	1.30	U	0.09	B
1,2-Dimethylbenzene	ug/kg		1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
1,3-Dichlorobenzene	ug/kg		-		-		-		-		-	
1,3-Dimethylbenzene	ug/kg		3.30	U	3.30	U	3.40	U	3.40	U	3.30	U
1,3,1,4-Dimethylbenzene	ug/kg		1.90	U	1.90	U	1.90	U	1.90	U	0.10	B
1,4-Dichlorobenzene	ug/kg		-		-		-		-		-	
1,4-Dimethylbenzene	ug/kg		1.50	U	1.40	U	1.50	U	1.50	U	1.40	U
Benzene	ug/kg		1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
Chlorobenzene	ug/kg		1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
Ethylbenzene	ug/kg		11	U	11	U	12	U	12	U	11	U
Methyl-t-Butyl Ether	ug/kg		1.60	U	1.50	U	1.60	U	1.60	U	1.50	U
Styrene	ug/kg		5.50	U	0.13	B	5.60	U	5.60	U	0.12	B
Toluene	ug/kg											
CLP 3/90	ug/kg		340	U	340	U	340	U	340	U	340	U
1,2,4-Trichlorobenzene	ug/kg		340	U	340	U	340	U	340	U	340	U
1,2-Dichlorobenzene	ug/kg		340	U	340	U	340	U	340	U	340	U
1,3-Dichlorobenzene	ug/kg		340	U	340	U	340	U	340	U	340	U
1,4-Dichlorobenzene	ug/kg		340	U	340	U	340	U	340	U	340	U
2,2'-Oxybis(1-Chloropropane)	ug/kg		820	U	810	U	830	U	830	U	820	U
2,4,5-Trichlorophenol	ug/kg		340	U	340	U	340	U	340	U	340	U
2,4,6-Trichlorophenol	ug/kg		340	U	340	U	340	U	340	U	340	U
2,4-Dichlorophenol	ug/kg		340	U	340	U	340	U	340	U	340	U
2,4-Dimethylphenol	ug/kg		820	U	810	U	830	U	830	U	820	U
2,4-Dinitrophenol	ug/kg		340	U	340	U	340	U	340	U	340	U
2,4-Dinitrotoluene	ug/kg		340	U	340	U	340	U	340	U	340	U
2,6-Dinitrotoluene	ug/kg		340	U	340	U	340	U	340	U	340	U
2-Chloronaphthalene	ug/kg		340	U	340	U	340	U	340	U	340	U
2-Chlorophenol	ug/kg		820	U	810	U	830	U	830	U	820	U
2-Methyl-4,6-Dinitrophenol	ug/kg		340	U	340	U	340	U	340	U	340	U
2-Methylnaphthalene	ug/kg		340	U	340	U	340	U	340	U	340	U
2-Methylphenol	ug/kg		820	U	810	U	830	U	830	U	820	U
2-Nitroaniline	ug/kg		340	U	340	U	340	U	340	U	340	U
2-Nitrophenol	ug/kg		340	U	340	U	340	U	340	U	340	U
3,3'-Dichlorobenzidine	ug/kg		340	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB11		SB12		SB12		SB13		SB13		SB13		SB13	
SAMPLE ID:		PC-CG3-SB11-SS10-12		PC-CG3-SB12-SS04-06		PC-CG3-SB12-SS10-12		PC-CG3-SB13-SS02-04		PC-CG3-SB13-SS04-06		PC-CG3-SB13-SS08-10		PC-CG3-SB13-SS08-10	
COLLECTION DATE:		08/26/93		08/26/93		08/26/93		08/26/93		08/26/93		08/26/93		08/26/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT
ug/kg	820	U	810	U	830	U	830	U	830	U	820	U	820	U	820
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	820	U	810	U	830	U	830	U	830	U	820	U	820	U	820
ug/kg	820	U	810	U	830	U	830	U	830	U	820	U	820	U	820
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	190
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340
ug/kg	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340</

LOCATOR:	SBI1	SBI2	SBI3	SBI3	SBI3
SAMPLE ID:	PC-CG3-SBI1-SS10-12	PC-CG3-SBI2-SS04-06	PC-CG3-SBI2-SS10-12	PC-CG3-SBI3-SS02-04	PC-CG3-SBI3-SS08-10
COLLECTION DATE:	08/26/93	08/26/93	08/26/93	08/26/93	08/26/93

	UNITS:		QUAL		RESULT		QUAL		RESULT		QUAL		RESULT		QUAL	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Nitrobenzene	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340	U
Pentachlorophenol	820	U	810	U	830	U	820	U	830	U	820	U	820	U	820	U
Phenanthrene	340	U	340	U	340	U	340	U	340	U	340	U	1500	U	1500	U
Phenol	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340	U
Pyrene	340	U	340	U	340	U	340	U	340	U	340	U	1000	U	1000	U
bis(2-Chloroethoxy)methane	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340	U
bis(2-Chloroethyl) ether	340	U	340	U	340	U	340	U	340	U	340	U	340	U	340	U
bis(2-Ethylhexyl)phthalate	210	U	340	U	45	U	340	U	37	U	340	U	340	U	340	U

METALS		-	4.70	UL	-	4.60	UL	-	4.70	UL	-	4.60	UL	-	4.70	UL	-	4.70	UL	(L)
Aluminum	mg/kg	-	4.70	UL	-	4.60	UL	-	4.70	UL	-	4.60	UL	-	4.70	UL	-	4.70	UL	UL
Antimony	mg/kg	-	0.42	U	-	0.41	U	-	0.42	U	-	0.41	U	-	0.49	U	-	0.49	U	(L)
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UL
Barium	mg/kg	-	0.42	U	-	0.41	U	-	0.42	U	-	0.41	U	-	0.41	U	-	0.41	U	U
Beryllium	mg/kg	-	0.52	UL	-	0.52	UL	-	0.52	UL	-	0.52	UL	-	0.52	UL	-	0.52	UL	UL
Cadmium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UL
Calcium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UL
Chromium	mg/kg	-	2.20	-	-	2.90	-	-	2.60	-	-	3.10	-	-	2.80	-	-	2.80	-	UL
Chromium, Hexavalent	mg/l	-	0.01	U	-	0.01	U	-	0.01	U	-	0.01	U	-	-	-	-	-	-	UL
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	J
Copper	mg/kg	-	1.60	U	-	2.70	-	-	1.60	U	-	3.10	-	-	2.70	-	-	2.70	-	J
Iron	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	J
Lead	mg/kg	-	0.92	-	-	0.93	-	-	1.20	-	-	0.98	-	-	1.20	-	-	1.20	-	J
Magnesium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	J
Manganese	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	J
Mercury	mg/kg	-	0.10	U	-	0.10	U	-	0.11	U	-	0.10	U	-	0.10	U	-	0.10	U	U
Nickel	mg/kg	-	3.70	U	-	3.60	U	-	3.70	U	-	3.60	U	-	3.60	U	-	3.60	U	U
Potassium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U
Selenium	mg/kg	-	0.31	UL	-	0.31	U	-	0.32	UL	-	0.31	U	-	0.31	U	-	0.31	U	U
Silver	mg/kg	-	0.42	U	-	0.41	U	-	0.42	U	-	0.41	U	-	0.41	U	-	0.41	U	U
Sodium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UL
Thallium	mg/kg	-	0.31	UL	-	0.31	U	-	0.32	UL	-	0.31	U	-	0.31	U	-	0.31	U	UL
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	UL
Zinc	mg/kg	-	5.40	B	-	19	B	-	4.70	B	-	65.30	B	-	11.60	B	-	11.60	B	B
TPH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons	mg/kg	-	6.30	U	-	6.30	U	-	39.20	-	-	31.30	-	-	38.80	-	-	38.80	-	-

Alpena CRTC, Alpena, MI

LOCATOR:

SAMPLE ID:

COLLECTION DATE:

UNITS:

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB13	SB2	SB2	SB2	SB2	SB2	SB2	SB3	SB3	SB3
SAMPLE ID:		PC-CG3-SB13-SS10-12	PC-HN8-SB2-SS01-02	PC-HN8-SB2-SS02-03	PC-HN8-SB2-SS09-10	PC-HN8-SB3-SS01-02	PC-HN8-SB3-SS09-11				
COLLECTION DATE:		08/26/93	08/13/93	08/13/93	08/13/93	08/13/93	08/13/93				
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg	1.50	U	1.50	U	0.07	U	1.40	U	0.06	J
1,2-Dichlorobenzene	ug/kg	1.30	U	0.04	B	0.03	B	1.20	U	0.12	B
1,2-Dimethylbenzene	ug/kg	1.90	U	1.90	U	1.90	U	1.90	U	0.04	B
1,3-Dichlorobenzene	ug/kg	-	U	-	U	-	U	-	U	-	U
1,3-Dimethylbenzene	ug/kg	3.30	U	3.30	U	3.30	U	3.30	U	3.30	U
1,3/1,4-Dimethylbenzene	ug/kg	1.90	U	1.90	U	0.17	U	0.13	B	0.13	B
1,4-Dichlorobenzene	ug/kg	-	U	-	U	-	U	-	U	-	U
1,4-Dimethylbenzene	ug/kg	1.50	U	1.40	U	1.50	U	1.40	U	1.50	U
Benzene	ug/kg	1.90	U	0.14	U	1.90	U	1.90	U	0.12	U
Chlorobenzene	ug/kg	1.90	U	0.05	J	1.90	U	1.90	U	0.10	J
Ethylbenzene	ug/kg	11	U	11	U	11	U	11	U	11	U
Methyl-t-Butyl Ether	ug/kg	1.60	U	1.50	U	1.60	U	1.50	U	1.60	U
Styrene	ug/kg	5.50	U	0.21	B	0.21	B	0.25	B	0.28	J
Toluene	ug/kg										
CLP 3/90	ug/kg	340	U	340	U	340	U	340	U	340	U
1,2,4-Trichlorobenzene	ug/kg	340	U	340	U	340	U	340	U	340	U
1,2-Dichlorobenzene	ug/kg	340	U	340	U	340	U	340	U	340	U
1,3-Dichlorobenzene	ug/kg	340	U	340	U	340	U	340	U	340	U
1,4-Dichlorobenzene	ug/kg	340	U	340	U	340	U	340	U	340	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	820	U	820	U	830	U	820	U	830	U
2,4,5-Trichlorophenol	ug/kg	340	U	340	U	340	U	340	U	340	U
2,4,6-Trichlorophenol	ug/kg	340	U	340	U	340	U	340	U	340	U
2,4-Dichlorophenol	ug/kg	340	U	340	U	340	U	340	U	340	U
2,4-Dimethylphenol	ug/kg	340	U	340	U	340	U	340	U	340	U
2,4-Dinitrophenol	ug/kg	340	U	820	U	830	U	820	U	830	U
2,4-Dinitrotoluene	ug/kg	340	U	340	U	340	U	340	U	340	U
2,6-Dinitrotoluene	ug/kg	340	U	340	U	340	U	340	U	340	U
2-Chloronaphthalene	ug/kg	340	U	340	U	340	U	340	U	340	U
2-Chlorophenol	ug/kg	340	U	340	U	340	U	340	U	340	U
2-Methyl-4,6-Dinitrophenol	ug/kg	820	U	820	U	830	U	820	U	830	U
2-Methylnaphthalene	ug/kg	340	U	340	U	340	U	340	U	340	U
2-Methylphenol	ug/kg	340	U	340	U	340	U	340	U	340	U
2-Nitroaniline	ug/kg	820	U	820	U	830	U	820	U	830	U
2-Nitrophenol	ug/kg	340	U	340	U	340	U	340	U	340	U
3,3'-Dichlorobenzidine	ug/kg	340	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB13		SB2		SB2		SB2		SB3		SB3	
SAMPLE ID: PC-CG3-SB13-SS10-12		PC-HN8-SB2-SS01-02		PC-HN8-SB2-SS02-03		PC-HN8-SB2-SS09-10		PC-HN8-SB3-SS01-02		PC-HN8-SB3-SS09-11			
COLLECTION DATE:		08/26/93		08/13/93		08/13/93		08/13/93		08/13/93		08/13/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
3-Nitroaniline	ug/kg	820	U	820	U	830	U	820	U	830	U	820	U
4-Bromophenyl phenyl ether	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
4-Chloro-3-methyl phenol	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
4-Chloroaniline	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
4-Chlorophenyl phenyl ether	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
4-Methylphenol	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
4-Nitroaniline	ug/kg	820	U	820	U	830	U	820	U	830	U	820	U
4-Nitrophenol	ug/kg	820	U	820	U	830	U	820	U	830	U	820	U
Acenaphthene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Acenaphthylene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Anthracene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(a)anthracene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(a)pyrene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(b)fluoranthene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(ghi)perylene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Benzo(k)fluoranthene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Butyl benzyl phthalate	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Carbazole	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Chrysene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Di-n-butyl phthalate	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Di-n-octyl phthalate	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Dibenzo(a,h)anthracene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Dibenzofuran	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Diethyl phthalate	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Dimethyl phthalate	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Fluoranthene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Fluorene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Hexachlorobenzene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Hexachlorobutadiene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Hexachlorocyclopentadiene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Hexachloroethane	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Indeno(1,2,3-c,d)pyrene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Isophorone	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
N-Nitrosodi-N-Propylamine	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
N-Nitrosodiphenylamine	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U
Naphthalene	ug/kg	340	U	340	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB4 SB6 SB7 SB8 SB8 SB8
SAMPLE ID: PC-HN8-SB4-SS12-14 PC-HN8-SB6-SS12-13 PC-HN8-SB7-SS12-13 PC-HN8-SB8-SS01-02 PC-HN8-SB8-SS09-10 PC-HN8-SB8-SS10-12
COLLECTION DATE: 08/13/93 08/15/93 08/15/93 08/17/93 08/17/93 08/17/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/kg	0.96	UJ	0.94	U	0.94	U	0.93	U	0.93	U	0.93	U
1,1,1,2-Tetrachloroethane	2.90	UJ	2.80	UJ	0.20	B	0.10	B	2.80	U	2.80	U
1,1,1-Trichloroethane	0.64	UJ	0.63	UJ	0.63	U	0.62	U	0.62	U	0.62	U
1,1,2,2-Tetrachloroethane	0.90	UJ	0.89	UJ	0.89	U	0.88	U	0.88	U	0.88	U
1,1,2-Trichloroethane	0.80	UJ	0.78	U	0.78	U	0.77	U	0.77	U	0.77	U
1,1-Dichloroethane	0.90	UJ	0.89	UJ	0.89	U	0.88	U	0.88	U	0.88	U
1,1-Dichloroethylene	0.96	UJ	0.94	UJ	0.94	U	0.93	U	0.93	U	0.93	U
1,2,3-Trichloropropane	1.40	UJ	1.40	UJ	1.40	U	1.30	U	1.30	U	1.30	U
1,2-Dibromoethane	1.50	UJ	1.50	UJ	1.50	U	1.40	U	1.40	U	1.40	U
1,2-Dichlorobenzene	0.69	UJ	0.68	UJ	0.68	U	0.67	U	0.67	U	0.67	U
1,2-Dichloroethane	0.69	UJ	0.68	UJ	0.68	U	0.67	U	0.67	U	0.67	U
1,2-Dichloropropane	1.20	UJ	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U
1,2-trans-Dichloroethylene	1.20	UJ	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U
1,3-Dichlorobenzene	1	UJ	0.99	U	0.99	U	0.98	U	0.98	U	0.98	U
1,3-cis-Dichloropropylene	0.90	UJ	0.89	U	0.89	U	0.88	U	0.88	U	0.88	U
1,3-trans-Dichloropropylene	1.50	UJ	1.50	UJ	1.50	U	1.40	U	1.40	U	1.40	U
1,4-Dichlorobenzene	1.20	UJ	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U
2-Chloroethylvinyl ether	1.10	UJ	1	U	1	U	1	U	1	U	1	U
4-Chlorotoluene	1.20	UJ	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U
4-Chlorotoluene	1.20	UJ	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U
Bromobenzene	0.80	UJ	0.78	U	0.78	U	0.77	U	0.77	U	0.77	U
Bromochloromethane	0.96	UJ	0.94	U	0.94	U	0.93	U	0.93	U	0.93	U
Bromodichloromethane	1.10	UJ	1	U	1	U	1	U	1	U	1	U
Bromoform	0.96	UJ	0.94	U	0.94	U	0.93	U	0.93	U	0.93	U
Carbon Tetrachloride	0.69	UJ	0.68	U	0.68	U	0.67	U	0.67	U	0.67	U
Chlorobenzene	0.96	UJ	0.94	U	0.94	U	0.93	U	0.93	U	0.93	U
Chloroethane	2.80	UJ	2.70	U	2.70	U	2.70	U	2.70	U	2.70	U
Chloroform	0.20	B	0.51	B	0.82	B	0.78	B	0.62	B	0.59	B
Dibromochloromethane	0.85	UJ	0.83	U	0.83	U	0.82	U	0.82	U	0.82	U
Dibromomethane	0.96	UJ	0.94	U	0.94	U	0.93	U	0.93	U	0.93	U
Methyl bromide	3	UJ	2.90	U	2.90	U	2.90	U	2.90	U	2.90	U
Methyl chloride	2.70	UJ	2.60	U	2.60	U	2.60	U	2.60	U	2.60	U
Methylene chloride	0.43	B	5.70	B	2.80	B	12	B	2.70	B	7.30	B
Tetrachloroethylene	0.85	UJ	0.83	U	0.83	U	0.82	U	0.82	U	0.82	U
Trichloroethylene	0.85	UJ	0.83	U	0.83	U	0.82	U	0.82	U	0.82	U
Vinyl chloride	2.80	UJ	2.70	U	2.70	U	2.70	U	2.70	U	2.70	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SB4		SB6		SB7		SB8		SB8		SB8	
	PC-HN8-SB4-SS12-14		PC-HN8-SB6-SS12-13		PC-HN8-SB7-SS12-13		PC-HN8-SB8-SS01-02		PC-HN8-SB8-SS09-10		PC-HN8-SB8-SS10-12	
	08/13/93	08/15/93	08/15/93	08/15/93	08/15/93	08/15/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93
COLLECTION DATE:												
UNITS:												
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	ug/kg		1.50	U	1.50	U	1.40	U	1.40	U	1.40	U
1,2-Dimethylbenzene	ug/kg	0.13	1.30	U	1.30	U	1.20	U	1.20	U	1.20	U
1,3-Dichlorobenzene	ug/kg	1.90	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
1,3-Dimethylbenzene	ug/kg	-	-	U	-	U	-	U	-	U	-	U
1,3/1,4-Dimethylbenzene	ug/kg	3.40	3.30	U	3.30	U	3.30	U	3.30	U	3.30	U
1,4-Dichlorobenzene	ug/kg	0.31	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
1,4-Dimethylbenzene	ug/kg	-	-	U	-	U	-	U	-	U	-	U
Benzene	ug/kg	1.50	1.50	U	1.50	U	1.40	U	1.40	U	1.40	U
Chlorobenzene	ug/kg	1.90	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
Ethylbenzene	ug/kg	1.90	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
Methyl-t-Butyl Ether	ug/kg	0.61	11	U	11	U	11	U	11	U	11	U
Styrene	ug/kg	1.60	1.60	U	1.60	U	1.50	U	1.50	U	1.50	U
Toluene	ug/kg	0.19	5.50	U	0.21	B	5.50	U	5.50	U	5.50	U
CLP 3/90												
1,2,4-Trichlorobenzene	ug/kg	350	340	U	340	U	340	U	340	U	340	U
1,2-Dichlorobenzene	ug/kg	350	340	U	340	U	340	U	340	U	340	U
1,3-Dichlorobenzene	ug/kg	350	340	U	340	U	340	U	340	U	340	U
1,4-Dichlorobenzene	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2,4,5-Trichlorophenol	ug/kg	850	830	U	830	U	820	U	810	U	820	U
2,4,6-Trichlorophenol	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2,4-Dichlorophenol	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2,4-Dimethylphenol	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2,4-Dinitrophenol	ug/kg	850	830	U	830	U	820	U	810	U	820	U
2,4-Dinitrotoluene	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2,6-Dinitrotoluene	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2-Chloronaphthalene	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2-Chlorophenol	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2-Methyl-4,6-Dinitrophenol	ug/kg	850	830	U	830	U	820	U	810	U	820	U
2-Methylnaphthalene	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2-Methylphenol	ug/kg	350	340	U	340	U	340	U	340	U	340	U
2-Nitroaniline	ug/kg	850	830	U	830	U	820	U	810	U	820	U
2-Nitrophenol	ug/kg	350	340	U	340	U	340	U	340	U	340	U
3,3'-Dichlorobenzidine	ug/kg	350	340	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB4		SB6		SB7		SB8		SB8		SB8	
	PC-HN8-SB4-SS12-14		PC-HN8-SB6-SS12-13		PC-HN8-SB7-SS12-13		PC-HN8-SB8-SS01-02		PC-HN8-SB8-SS09-10		PC-HN8-SB8-SS10-12	
	08/13/93	08/15/93	08/15/93	08/15/93	08/15/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
3-Nitroaniline	850	U	830	U	830	U	820	U	810	U	820	U
4-Bromophenyl phenyl ether	350	U	340	U	340	U	340	U	340	U	340	U
4-Chloro-3-methyl phenol	350	U	340	U	340	U	340	U	340	U	340	U
4-Chloroaniline	350	U	340	U	340	U	340	U	340	U	340	U
4-Chlorophenyl phenyl ether	350	U	340	U	340	U	340	U	340	U	340	U
4-Methylphenol	350	U	340	U	340	U	340	U	340	U	340	U
4-Nitroaniline	850	U	830	U	830	U	820	U	810	U	820	U
4-Nitrophenol	850	U	830	U	830	U	820	U	810	U	820	U
Acenaphthene	350	U	340	U	340	U	340	U	340	U	340	U
Acenaphthylene	350	U	340	U	340	U	340	U	340	U	340	U
Anthracene	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(a)anthracene	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(a)pyrene	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(b)fluoranthene	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(ghi)perylene	350	U	340	U	340	U	340	U	340	U	340	U
Benzo(k)fluoranthene	350	U	340	U	340	U	340	U	340	U	340	U
Butyl benzyl phthalate	350	U	340	U	340	U	340	U	340	U	340	U
Carbazole	350	U	340	U	340	U	340	U	340	U	340	U
Chrysene	350	U	340	U	340	U	340	U	340	U	340	U
Di-n-butyl phthalate	350	U	340	U	340	U	340	U	340	U	340	U
Di-n-octyl phthalate	350	U	340	U	340	U	340	U	340	U	340	U
Dibenzo(a,h)anthracene	350	U	340	U	340	U	340	U	340	U	340	U
Dibenzofuran	350	U	340	U	340	U	340	U	340	U	340	U
Diethyl phthalate	350	U	340	U	340	U	340	U	340	U	340	U
Dimethyl phthalate	350	U	340	U	340	U	340	U	340	U	340	U
Fluoranthene	350	U	340	U	340	U	340	U	340	U	340	U
Fluorene	350	U	340	U	340	U	340	U	340	U	340	U
Hexachlorobenzene	350	U	340	U	340	U	340	U	340	U	340	U
Hexachlorobutadiene	350	U	340	U	340	U	340	U	340	U	340	U
Hexachlorocyclopentadiene	350	U	340	U	340	U	340	U	340	U	340	U
Hexachloroethane	350	U	340	U	340	U	340	U	340	U	340	U
Indeno(1,2,3-c,d)pyrene	350	U	340	U	340	U	340	U	340	U	340	U
Isophorone	350	U	340	U	340	U	340	U	340	U	340	U
N-Nitrosodi-N-Propylamine	350	U	340	U	340	U	340	U	340	U	340	U
N-Nitrosodiphenylamine	350	U	340	U	340	U	340	U	340	U	340	U
Naphthalene	350	U	340	U	340	U	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB4		SB6		SB7		SB8		SB8		SB8		
	PC-HN8-SB4-SS12-14		PC-HN8-SB6-SS12-13		PC-HN8-SB7-SS12-13		PC-HN8-SB8-SS01-02		PC-HN8-SB8-SS09-10		PC-HN8-SB8-SS10-12		
	08/13/93	08/15/93	08/15/93	08/15/93	08/15/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	08/17/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
Nitrobenzene Pentachlorophenol Phenanthrene Phenol Pyrene bis(2-Chloroethoxy)methane bis(2-Chloroethyl) ether bis(2-Ethylhexyl)phthalate	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
	ug/kg	850	U	830	U	830	U	820	U	810	U	820	U
	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
	ug/kg	350	U	340	U	340	U	340	U	340	U	340	U
METALS	mg/kg	1040	UL	4.70	UL	4.70	UL	4.70	UL	4.60	UL	4.60	UL
	mg/kg	4.80	UL	4.70	UL	4.70	UL	4.70	UL	4.60	UL	4.60	UL
	mg/kg	0.56	O	1.20	B	0.52	OB	1.20	B	0.43	OB	0.56	OB
	mg/kg	2.60	O	-	-	-	-	-	-	-	-	-	-
	mg/kg	0.43	U	0.42	U	0.42	U	0.41	U	0.41	U	0.41	U
	mg/kg	0.53	U	0.52	UL	0.52	U	0.52	U	0.52	U	0.52	UL
	mg/kg	39400	-	-	-	-	-	-	-	-	-	-	-
	mg/kg	2.70	-	1.70	-	2.20	-	3.10	-	2.20	-	2.90	-
	mg/kg	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
	mg/l	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Chromium, Hexavalent	mg/kg	1	O	-	-	-	-	-	-	-	-	-	-
	mg/kg	1.60	U	1.60	U	2.10	O	2.80	-	1.50	U	1.80	O
	mg/kg	2170	U	-	-	-	-	-	-	-	-	-	-
	mg/kg	0.89	U	0.72	B	1	B	1.10	B	0.76	B	0.88	B
	mg/kg	5520	-	-	-	-	-	-	-	-	-	-	-
	mg/kg	48.60	-	-	-	-	-	-	-	-	-	-	-
	mg/kg	0.11	U	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
	mg/kg	3.70	U	3.60	U	3.60	U	3.60	U	3.60	U	3.60	U
	mg/kg	243	U	-	-	-	-	-	-	-	-	-	-
	mg/kg	0.32	U	0.31	U	0.31	U	0.31	U	0.31	U	0.31	U
Selenium	mg/kg	0.43	U	0.42	UL	0.42	UL	0.41	UL	0.41	UL	0.41	UL
	mg/kg	64.90	O	-	-	-	-	-	-	-	-	-	-
	mg/kg	0.32	U	0.31	UL	0.31	UL	0.31	UL	0.31	UL	0.31	UL
	mg/kg	4.10	O	-	-	-	-	-	-	-	-	-	-
	mg/kg	4.60	B	6.80	B	5.50	B	11.10	B	7.30	B	5.80	B
	mg/kg	4.60	B	6.80	B	5.50	B	11.10	B	7.30	B	5.80	B
	mg/kg	4.60	B	6.80	B	5.50	B	11.10	B	7.30	B	5.80	B
	mg/kg	4.60	B	6.80	B	5.50	B	11.10	B	7.30	B	5.80	B
	mg/kg	4.60	B	6.80	B	5.50	B	11.10	B	7.30	B	5.80	B
	mg/kg	4.60	B	6.80	B	5.50	B	11.10	B	7.30	B	5.80	B
TPH	mg/kg	7.30	B	147	B	12	B	23.10	B	16.40	B	11.20	B
Total Petroleum Hydrocarbons	mg/kg	7.30	B	147	B	12	B	23.10	B	16.40	B	11.20	B

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB7 SB7 SB7 SB8 SB9 SB10
SAMPLE ID: PC-RT9-SB7-SS05-07 PC-RT9-SB7-SS15-17 PC-RT9-SB7-SS21-22 PC-RT9-SB8-SS15-17 PC-RT9-SB9-SS15-17 PC-RT9-SB10-SS10-12
COLLECTION DATE: 11/12/92 11/12/92 11/12/92 11/12/92 11/12/92 11/12/92

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	0.94	UJ	0.94	U	0.92	U	0.94	UJ	1	UJ
1,1,1,2-Tetrachloroethane	ug/kg		0.10	B	0.20	B	0.11	B	3.10	UJ
1,1,1-Trichloroethane	ug/kg		0.63	U	0.61	U	0.63	UJ	0.70	UJ
1,1,2,2-Tetrachloroethane	ug/kg		0.89	UJ	0.87	U	0.89	UJ	0.99	UJ
1,1,2-Trichloroethane	ug/kg		0.78	U	0.77	U	0.78	UJ	0.87	UJ
1,1-Dichloroethane	ug/kg		0.89	U	0.87	U	0.89	UJ	0.99	UJ
1,1-Dichloroethylene	ug/kg		0.94	U	0.92	U	0.94	UJ	1	UJ
1,2,3-Trichloropropane	ug/kg		1.40	UJ	1.30	U	1.40	UJ	1.50	UJ
1,2-Dibromoethane	ug/kg		1.50	U	1.40	U	1.50	UJ	1.60	UJ
1,2-Dichlorobenzene	ug/kg		0.68	UJ	0.66	U	0.68	UJ	0.76	UJ
1,2-Dichloroethane	ug/kg		0.68	UJ	0.66	U	0.68	UJ	0.76	UJ
1,2-Dichloropropane	ug/kg		1.10	UJ	1.10	U	1.10	UJ	1.30	UJ
1,2-trans-Dichloroethylene	ug/kg		1.10	UJ	1.10	U	1.10	UJ	1.30	UJ
1,3-Dichlorobenzene	ug/kg		0.99	UJ	0.97	U	0.99	UJ	1.10	UJ
1,3-cis-Dichloropropylene	ug/kg		0.89	UJ	0.87	U	0.89	UJ	0.99	UJ
1,3-trans-Dichloropropylene	ug/kg		1.50	UJ	1.40	U	1.50	UJ	1.60	UJ
1,4-Dichlorobenzene	ug/kg		1.10	UJ	1.10	U	1.10	U	1.30	UJ
2-Chloroethylvinyl ether	ug/kg		1	UJ	1	U	1	UJ	1.20	UJ
2-Chlorotoluene	ug/kg		1.10	UJ	1.10	U	1.10	UJ	1.30	UJ
4-Chlorotoluene	ug/kg		0.78	UJ	0.77	U	0.78	UJ	0.87	UJ
Bromobenzene	ug/kg		0.94	UJ	0.92	U	0.94	UJ	1	UJ
Bromochloromethane	ug/kg		1	UJ	1	U	1	UJ	1.20	UJ
Bromodichloromethane	ug/kg		0.94	UJ	0.92	U	0.94	UJ	1	UJ
Bromoform	ug/kg		0.68	UJ	0.66	U	0.68	UJ	0.76	UJ
Carbon Tetrachloride	ug/kg		0.94	UJ	0.92	U	0.94	UJ	1	UJ
Chlorobenzene	ug/kg		2.70	UJ	2.70	U	2.70	UJ	3	UJ
Chloroethane	ug/kg		0.72	B	1.10	B	0.86	B	1.80	B
Chloroform	ug/kg		0.83	UJ	0.82	U	0.83	UJ	0.93	UJ
Dibromochloromethane	ug/kg		0.94	UJ	0.92	U	0.94	UJ	1	UJ
Dibromomethane	ug/kg		2.90	UJ	2.90	U	2.90	UJ	3.30	UJ
Methyl bromide	ug/kg		2.60	UJ	2.60	U	2.60	UJ	2.90	UJ
Methyl chloride	ug/kg		2.20	B	4.80	B	2.90	B	1.50	B
Methylene chloride	ug/kg		0.83	UJ	0.82	U	0.83	UJ	0.93	UJ
Tetrachloroethylene	ug/kg		0.83	UJ	0.82	U	0.83	UJ	0.93	UJ
Trichloroethylene	ug/kg		2.70	UJ	2.70	U	2.70	UJ	3	UJ
Vinyl chloride	ug/kg									

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB7	SB7	SB7	SB8	SB9	SB10
SAMPLE ID:		PC-RT9-SB7-SS05-07	PC-RT9-SB7-SS15-17	PC-RT9-SB7-SS21-22	PC-RT9-SB8-SS15-17	PC-RT9-SB9-SS15-17	PC-RT9-SB10-SS10-12
COLLECTION DATE:		11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg	0.08	B	0.19	B	0.14	B
1,2-Dichlorobenzene	ug/kg	1.30	U	1.30	U	1.20	U
1,2-Dimethylbenzene	ug/kg	0.49	B	0.06	B	0.28	B
1,3-Dichlorobenzene	ug/kg	-	-	-	-	-	-
1,3-Dimethylbenzene	ug/kg	3.30	U	-	U	3.30	U
1,3/1,4-Dimethylbenzene	ug/kg	1.90	U	0.55	B	0.20	B
1,4-Dichlorobenzene	ug/kg	-	-	-	-	-	-
1,4-Dimethylbenzene	ug/kg	1.50	U	1.50	U	1.40	U
Benzene	ug/kg	1.90	U	1.90	U	1.60	U
Chlorobenzene	ug/kg	1.90	U	0.22	B	0.38	B
Ethylbenzene	ug/kg	11	U	11	U	11	U
Methyl-t-Butyl Ether	ug/kg	1.60	U	0.07	B	1.50	U
Styrene	ug/kg	0.43	B	0.66	B	0.56	B
Toluene	ug/kg	-	-	-	-	-	-
CLP 3/90	ug/kg	340	U	340	U	340	U
1,2,4-Trichlorobenzene	ug/kg	340	U	340	U	340	U
1,2-Dichlorobenzene	ug/kg	340	U	340	U	340	U
1,3-Dichlorobenzene	ug/kg	340	U	340	U	340	U
1,4-Dichlorobenzene	ug/kg	340	U	340	U	340	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	340	U	340	U	340	U
2,4,5-Trichlorophenol	ug/kg	830	U	830	U	820	U
2,4,6-Trichlorophenol	ug/kg	340	U	340	U	340	U
2,4-Dichlorophenol	ug/kg	340	U	340	U	340	U
2,4-Dimethylphenol	ug/kg	340	U	340	U	340	U
2,4-Dinitrophenol	ug/kg	830	U	830	U	820	U
2,4-Dinitrotoluene	ug/kg	340	U	340	U	340	U
2,6-Dinitrotoluene	ug/kg	340	U	340	U	340	U
2-Chloronaphthalene	ug/kg	340	U	340	U	340	U
2-Chlorophenol	ug/kg	340	U	340	U	340	U
2-Methyl-4,6-Dinitrophenol	ug/kg	830	U	830	U	820	U
2-Methylnaphthalene	ug/kg	340	U	340	U	340	U
2-Methylphenol	ug/kg	340	U	340	U	340	U
2-Nitroaniline	ug/kg	830	U	830	U	820	U
2-Nitrophenol	ug/kg	340	U	340	U	340	U
3,3'-Dichlorobenzidine	ug/kg	340	U	340	U	340	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SB7	SB7	SB7	SB8	SB9	SB10	
SAMPLE ID:	PC-RT9-SB7-SS05-07	PC-RT9-SB7-SS15-17	PC-RT9-SB7-SS21-22	PC-RT9-SB8-SS15-17	PC-RT9-SB9-SS15-17	PC-RT9-SB10-SS10-12	
COLLECTION DATE:	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
3-Nitroaniline	ug/kg	830	U	830	U	820	UJ
4-Bromophenyl phenyl ether	ug/kg	340	U	340	U	380	U
4-Chloro-3-methyl phenol	ug/kg	340	U	340	U	380	U
4-Chloroaniline	ug/kg	340	U	340	UJ	380	UJ
4-Chlorophenyl phenyl ether	ug/kg	340	U	340	U	380	U
4-Methylphenol	ug/kg	340	U	340	U	380	U
4-Nitroaniline	ug/kg	830	U	830	U	930	U
4-Nitrophenol	ug/kg	830	UJ	830	UJ	930	UJ
Acenaphthene	ug/kg	340	U	340	U	380	U
Acenaphthylene	ug/kg	340	U	340	U	380	U
Anthracene	ug/kg	340	U	340	U	380	U
Benzo(a)anthracene	ug/kg	340	U	340	U	380	U
Benzo(a)pyrene	ug/kg	340	U	340	U	380	U
Benzo(b)fluoranthene	ug/kg	340	U	340	U	380	U
Benzo(g,h)perylene	ug/kg	340	U	340	U	380	U
Benzo(k)fluoranthene	ug/kg	340	U	340	U	380	UJ
Butyl benzyl phthalate	ug/kg	340	UJ	340	UJ	380	U
Carbazole	ug/kg	340	U	340	U	380	U
Chrysene	ug/kg	340	U	340	U	380	U
Di-n-butyl phthalate	ug/kg	190	B	230	B	210	U
Di-n-octyl phthalate	ug/kg	340	UJ	340	UJ	380	U
Dibenzo(a,h)anthracene	ug/kg	340	U	340	U	380	U
Dibenzofuran	ug/kg	340	U	340	U	380	U
Diethyl phthalate	ug/kg	340	U	340	U	380	U
Dimethyl phthalate	ug/kg	340	U	340	U	380	U
Fluoranthene	ug/kg	340	U	340	U	380	U
Fluorene	ug/kg	340	U	340	U	380	U
Hexachlorobenzene	ug/kg	340	U	340	UJ	380	U
Hexachlorobutadiene	ug/kg	340	U	340	U	380	U
Hexachlorocyclopentadiene	ug/kg	340	U	340	U	380	U
Hexachloroethane	ug/kg	340	U	340	U	380	U
Indeno(1,2,3-c,d)pyrene	ug/kg	340	U	340	U	380	U
Isophorone	ug/kg	340	U	340	U	380	U
N-Nitrosodi-N-Propylamine	ug/kg	340	UJ	340	UJ	380	U
N-Nitrosodiphenylamine	ug/kg	340	U	340	UJ	380	U
Naphthalene	ug/kg	340	U	340	U	380	U

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SB7	SB7	SB7	SB8	SB9	SB10
SAMPLE ID:		PC-RT9-SB7-SS05-07	PC-RT9-SB7-SS15-17	PC-RT9-SB7-SS21-22	PC-RT9-SB8-SS15-17	PC-RT9-SB9-SS15-17	PC-RT9-SB10-SS10-12
COLLECTION DATE:		11/12/92	11/12/92	11/12/92	11/12/92	11/12/92	11/12/92
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Nitrobenzene	ug/kg	340	U	340	U	340	U
Pentachlorophenol	ug/kg	830	U	820	U	930	U
Phenanthrene	ug/kg	340	U	340	U	380	U
Phenol	ug/kg	340	U	340	U	380	U
Pyrene	ug/kg	340	U	340	U	380	U
bis(2-Chloroethoxy)methane	ug/kg	340	U	340	U	380	U
bis(2-Chloroethyl) ether	ug/kg	340	U	340	U	380	U
bis(2-Ethylhexyl)phthalate	ug/kg	340	U	340	U	130	U
METALS							
Aluminum	mg/kg	1600	J	821	J	1040	J
Antimony	mg/kg	5.90	U	5.80	U	6.70	U
Arsenic	mg/kg	0.44	B0	0.65	B0	0.51	B0
Barium	mg/kg	4.40	B0	2.80	B0	3.70	B0
Beryllium	mg/kg	0.21	U	0.20	U	0.23	U
Cadmium	mg/kg	0.52	U	0.51	U	0.58	U
Calcium	mg/kg	495	B0	34200	28800	35700	30200
Chromium	mg/kg	5.30	U	2.20	1.80	2.80	1.80
Chromium, Hexavalent	mg/l	0.01	U	0.01	0.01	0.01	0.01
Cobalt	mg/kg	1.40	B0	1.20	1.10	1.30	1.10
Copper	mg/kg	2.60	U	2.60	2.60	2.90	2.60
Iron	mg/kg	2700	U	1490	1220	1870	1550
Lead	mg/kg	1.40	U	0.87	0.67	1	0.83
Magnesium	mg/kg	804	U	4010	4230	6250	4020
Manganese	mg/kg	58.50	U	42.60	33.90	47.50	40.10
Mercury	mg/kg	0.10	UN	0.10	0.10	0.12	0.10
Nickel	mg/kg	4.20	U	4.20	4.20	4.70	4.10
Potassium	mg/kg	505	U	508	506	567	503
Selenium	mg/kg	0.42	U	0.42	0.42	0.47	0.41
Silver	mg/kg	1	U	1	1	1.20	1
Sodium	mg/kg	95.20	B0	105	105	138	121
Thallium	mg/kg	0.21	UL	0.20	0.21	0.23	0.21
Vanadium	mg/kg	6.20	B0	3.40	2.50	4.10	3.10
Zinc	mg/kg	5	B	3.60	3.40	3.90	3.50
TPH	mg/kg	21.40		13.60	18.50	15.10	19.40
Total Petroleum Hydrocarbons	mg/kg						

Alpena CRTC, Alpena, MI

SB12

SB11

SAMPLE ID: PC-RT9-SB11-SS12-14 PC-RT9-SB12-SS05-07

11/13/92

UNITS:	RESULT	QUAL	RESULT	QUAL
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8010

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB11 SB12
SAMPLE ID: PC-RT9-SB11-SS12-14 PC-RT9-SB12-SS05-07
COLLECTION DATE: 11/12/92 11/13/92

UNITS:	RESULT	QUAL	RESULT	QUAL
8020				
1,2-Dichlorobenzene	ug/kg	1.40	U	-
1,2-Dimethylbenzene	ug/kg	1.20	U	-
1,3-Dichlorobenzene	ug/kg	0.50	B	-
1,3-Dimethylbenzene	ug/kg	-	-	-
1,3/1,4-Dimethylbenzene	ug/kg	3.30	U	-
1,4-Dichlorobenzene	ug/kg	1.80	U	-
1,4-Dimethylbenzene	ug/kg	-	-	-
Benzene	ug/kg	1.40	U	-
Chlorobenzene	ug/kg	1.80	U	-
Ethylbenzene	ug/kg	1.80	U	-
Methyl-t-Butyl Ether	ug/kg	0.54	-	-
Styrene	ug/kg	1.50	U	-
Toluene	ug/kg	0.41	B	-
CLP 3/90				
1,2,4-Trichlorobenzene	ug/kg	340	U	340
1,2-Dichlorobenzene	ug/kg	340	U	340
1,3-Dichlorobenzene	ug/kg	340	U	340
1,4-Dichlorobenzene	ug/kg	340	U	340
2,2'-Oxybis(1-Chloropropane)	ug/kg	340	U	340
2,4,5-Trichlorophenol	ug/kg	820	U	830
2,4,6-Trichlorophenol	ug/kg	340	U	340
2,4-Dichlorophenol	ug/kg	340	U	340
2,4-Dimethylphenol	ug/kg	340	U	340
2,4-Dinitrophenol	ug/kg	820	U	830
2,4-Dinitrotoluene	ug/kg	340	U	340
2,6-Dinitrotoluene	ug/kg	340	U	340
2-Chloronaphthalene	ug/kg	340	U	340
2-Chlorophenol	ug/kg	340	U	340
2-Methyl-4,6-Dinitrophenol	ug/kg	820	U	830
2-Methylnaphthalene	ug/kg	340	U	340
2-Methylphenol	ug/kg	340	U	340
2-Nitroaniline	ug/kg	820	U	830
2-Nitrophenol	ug/kg	340	U	340
3,3'-Dichlorobenzidine	ug/kg	340	U	340

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB11 SB12
SAMPLE ID: PC-RT9-SB11-SS12-14 PC-RT9-SB12-SS05-07
COLLECTION DATE: 11/12/92 11/13/92

UNITS:	RESULT	QUAL	RESULT	QUAL
3-Nitroaniline	ug/kg	820	U	830
4-Bromophenyl phenyl ether	ug/kg	340	U	340
4-Chloro-3-methyl phenol	ug/kg	340	U	340
4-Chloroaniline	ug/kg	340	U	340
4-Chlorophenyl phenyl ether	ug/kg	340	U	340
4-Methylphenol	ug/kg	340	U	340
4-Nitroaniline	ug/kg	820	U	830
4-Nitrophenol	ug/kg	820	U	830
Acenaphthene	ug/kg	340	U	340
Acenaphthylene	ug/kg	340	U	340
Anthracene	ug/kg	340	U	340
Benzo(a)anthracene	ug/kg	340	U	340
Benzo(a)pyrene	ug/kg	340	U	340
Benzo(b)fluoranthene	ug/kg	340	U	340
Benzo(ghi)perylene	ug/kg	340	U	340
Benzo(k)fluoranthene	ug/kg	340	U	340
Butyl benzyl phthalate	ug/kg	340	U	340
Carbazole	ug/kg	340	U	340
Chrysene	ug/kg	340	U	340
Di-n-butyl phthalate	ug/kg	52	B	55
Di-n-octyl phthalate	ug/kg	340	U	340
Dibenzo(a,h)anthracene	ug/kg	340	U	340
Dibenzofuran	ug/kg	340	U	340
Diethyl phthalate	ug/kg	340	U	340
Dimethyl phthalate	ug/kg	340	U	340
Fluoranthene	ug/kg	340	U	340
Fluorene	ug/kg	340	U	340
Hexachlorobenzene	ug/kg	340	U	340
Hexachlorobutadiene	ug/kg	340	U	340
Hexachlorocyclopentadiene	ug/kg	340	U	340
Hexachloroethane	ug/kg	340	U	340
Indeno(1,2,3-c,d)pyrene	ug/kg	340	U	340
Isophorone	ug/kg	340	U	340
N-Nitrosodi-N-Propylaniline	ug/kg	340	U	340
N-Nitrosodiphenylamine	ug/kg	340	U	340
Naphthalene	ug/kg	340	U	340

Appendix L - Subsurface Soil Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SB11 SB12
SAMPLE ID: PC-RT9-SB11-SS12-14 PC-RT9-SB12-SS05-07
COLLECTION DATE: 11/12/92 11/13/92

	UNITS:	RESULT	QUAL	RESULT	QUAL
Nitrobenzene	ug/kg	340	U	340	U
Pentachlorophenol	ug/kg	820	U	830	U
Phenanthrene	ug/kg	340	U	340	U
Phenol	ug/kg	340	U	340	U
Pyrene	ug/kg	340	U	340	U
bis(2-Chloroethoxy)methane	ug/kg	340	U	340	U
bis(2-Chloroethyl) ether	ug/kg	340	U	340	U
bis(2-Ethylhexyl)phthalate	ug/kg	35	J	79	
METALS					
Aluminum	mg/kg	725	J	-	UL
Antimony	mg/kg	5.80	U	5.90	U
Arsenic	mg/kg	0.45	B0	0.65	B
Barium	mg/kg	2.50	B0	-	
Beryllium	mg/kg	0.20	U	0.21	U
Cadmium	mg/kg	0.51	U	0.52	U
Calcium	mg/kg	26800	J	-	
Chromium	mg/kg	2		4.20	
Chromium, Hexavalent	mg/l	0.01	U	0.01	U
Cobalt	mg/kg	1.10	U	-	
Copper	mg/kg	2.50	U	2.70	
Iron	mg/kg	1370		-	
Lead	mg/kg	0.85		1.30	
Magnesium	mg/kg	3530		-	
Manganese	mg/kg	35.40		-	
Mercury	mg/kg	0.10	UN	0.10	UN
Nickel	mg/kg	4.10	U	4.10	U
Potassium	mg/kg	493	U	-	
Selenium	mg/kg	0.41	U	0.42	UL
Silver	mg/kg	1	U	1	U
Sodium	mg/kg	102	B0	-	
Thallium	mg/kg	0.20	UL	0.21	U
Vanadium	mg/kg	2.70	B	-	
Zinc	mg/kg	3.30	OB	6.70	B
TPH		14		8.70	
Total Petroleum Hydrocarbons	mg/kg				

L-96

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD001		SD002		SD004		SD003		SD005		SD001	
	PC-P1-SD001		PC-P1-SD002		PC-P1-SD004		PC-P1-SD003		PC-P1-SD005		PC-TF4-SD001	
	09/13/93	09/13/93	09/13/93	09/13/93	09/13/93	09/13/93	09/13/93	09/13/93	09/13/93	09/13/93	07/29/93	07/29/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
2												
1,2-Dichlorobenzene	1.80	U	0.85	U	1.70	U	2	U	1.80	U	3.30	B
1,2-Dimethylbenzene	0.20	B	1.40	U	0.12	B	0.12	B	0.12	B	2.70	U
1,3-Dichlorobenzene	2.30	U	2	U	2.20	U	2.30	U	2.30	U	4	U
1,3,4-Dimethylbenzene	4.10	U	3.60	U	4	U	4.20	U	4.20	U	7.10	U
1,4-Dichlorobenzene	0.27	B	2	U	0.23	U	2.30	U	0.25	B	4	U
Benzene	1.80	U	1.60	U	1.70	U	1.80	U	1.80	U	3.10	U
Chlorobenzene	2.30	U	2	U	2.20	U	2.30	U	2.30	U	4	U
Ethylbenzene	2.30	U	2	U	2.20	U	2.30	U	2.30	U	4	U
Methyl-t-Butyl Ether	14	U	13	U	14	U	14	U	14	U	24	U
Styrene	1.90	U	1.70	U	1.90	U	1.90	U	1.90	U	3.30	U
Toluene	0.24	B	0.20	B	0.14	B	0.34	B	0.12	B	12	U
CLP 3/90												
1,2,4-Trichlorobenzene	420	U	370	U	410	U	430	U	430	U	730	U
1,2-Dichlorobenzene	420	U	370	U	410	U	430	U	430	U	730	U
1,3-Dichlorobenzene	420	U	370	U	410	U	430	U	430	U	730	U
1,4-Dichlorobenzene	420	U	370	U	410	U	430	U	430	U	730	U
2,2'-Oxybis(1-Chloropropane)	420	U	370	U	410	U	430	U	430	U	730	U
2,4,5-Trichlorophenol	1000	U	890	U	990	U	1000	U	1000	U	1800	U
2,4,6-Trichlorophenol	420	U	370	U	410	U	430	U	430	U	730	U
2,4-Dichlorophenol	420	U	370	U	410	U	430	U	430	U	730	U
2,4-Dimethylphenol	420	U	370	U	410	U	430	U	430	U	730	U
2,4-Dinitrophenol	1000	U	890	U	990	U	1000	U	1000	U	1800	U
2,4-Dinitrotoluene	420	U	370	U	410	U	430	U	430	U	730	U
2,6-Dinitrotoluene	420	U	370	U	410	U	430	U	430	U	730	U
2-Chloronaphthalene	420	U	370	U	410	U	430	U	430	U	730	U
2-Chlorophenol	420	U	370	U	410	U	430	U	430	U	730	U
2-Methyl-4,6-Dinitrophenol	1000	U	890	U	990	U	1000	U	1000	U	1800	U
2-Methylnaphthalene	420	U	370	U	410	U	430	U	430	U	730	U
2-Methylphenol	420	U	370	U	410	U	430	U	430	U	730	U
2-Nitroaniline	1000	U	890	U	990	U	1000	U	1000	U	1800	U
2-Nitrophenol	420	U	370	U	410	U	430	U	430	U	730	U
3,3'-Dichlorobenzidine	420	U	370	U	410	U	430	U	430	U	730	U
3-Nitroaniline	1000	U	890	U	990	U	1000	U	1000	U	1800	U
4-Bromophenyl phenyl ether	420	U	370	U	410	U	430	U	430	U	730	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:			SD001 PC-P1-SD001 09/13/93		SD002 PC-P1-SD002 09/13/93		SD004 PC-P1-SD004 09/13/93		SD003 PC-P1-SD003 09/13/93		SD005 PC-P1-SD005 09/13/93		SD001 PC-TF4-SD001 07/29/93		
UNITS:			RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
4-Chloro-3-methyl phenol			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
4-Chloroaniline			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
4-Chlorophenyl phenyl ether			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
4-Methylphenol			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
4-Nitroaniline			ug/kg	1000	U	890	U	990	U	1000	U	1000	U	1800	U
4-Nitrophenol			ug/kg	1000	U	890	U	990	U	1000	U	1000	U	1800	U
Acenaphthene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Acenaphthylene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Anthracene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Benzo(a)anthracene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Benzo(a)pyrene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Benzo(b)fluoranthene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Benzo(ghi)perylene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Benzo(k)fluoranthene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Butyl benzyl phthalate			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Carbazole			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Chrysene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Di-n-butyl phthalate			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Di-n-octyl phthalate			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Dibenzo(a,h)anthracene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Dibenzofuran			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Diethyl phthalate			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Dimethyl phthalate			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Fluoranthene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Fluorene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Hexachlorobenzene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Hexachlorobutadiene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Hexachlorocyclopentadiene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Hexachloroethane			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Indeno(1,2,3-c,d)pyrene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Isophorone			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
N-Nitrosodi-N-Propylamine			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
N-Nitrosodiphenylamine			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Naphthalene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Nitrobenzene			ug/kg	420	U	370	U	410	U	430	U	430	U	730	U
Pentachlorophenol			ug/kg	1000	U	890	U	990	U	1000	U	1000	U	1800	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD001 PC-P1-SD001 09/13/93		SD002 PC-P1-SD002 09/13/93		SD004 PC-P1-SD004 09/13/93		SD003 PC-P1-SD003 09/13/93		SD005 PC-P1-SD005 09/13/93		SD001 PC-TF4-SD001 07/29/93	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:												
Phenanthrene	420	U	370	U	410	U	430	U	430	U	730	U
Phenol	420	U	370	U	410	U	430	U	430	U	730	U
Pyrene	420	U	370	U	410	U	430	U	430	U	730	U
bis(2-Chloroethoxy)methane	420	U	370	U	410	U	430	U	430	U	730	U
bis(2-Chloroethyl) ether	420	U	370	U	410	U	430	U	430	U	730	U
bis(2-Ethylhexyl)phthalate	420	U	370	U	410	U	430	U	430	U	90	B
METALS												
Aluminum	-	UL	5.10	UL	5.50	UL	5.80	UL	5.90	UL	-	UL
Antimony	5.70	UL	8.50		3.10		0.96		3.40		7.80	
Arsenic	3										2.30	
Barium	-		-		-		-		-		-	
Beryllium	0.51	U	0.45	U	0.49	U	0.52	U	0.52	U	0.22	U
Cadmium	0.64	UL	0.57	UL	0.62	UL	0.65	UL	0.65	UL	0.67	U
Calcium	-		-		-		-		-		-	
Chromium	4		3.30		3.70		2.80		14.70		10	
Chromium, Hexavalent	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	-	
Cobalt	-		-		-		-		-		-	
Copper	2.30	0	4.30		6.30		1.90	U	24		4.80	QB
Iron	-		-		-		-		-		-	
Lead	2.30	L	3.90	L	2.30	L	1.20	L	4	L	4.50	B
Magnesium	-		-		-		-		-		-	
Manganese	-		-		-		-		-		-	
Mercury	0.13	U	0.11	U	0.12	U	0.13	U	0.13	U	0.22	U
Nickel	4.50	U	4	U	4.30	U	4.60	0	11.70	0	4.50	0
Potassium	-		-		-		-		-		-	
Selenium	0.38	UL	0.34	UL	0.37	U	0.39	U	0.39	U	1.10	U
Silver	0.51	U	0.45	U	0.49	U	0.52	U	0.52	U	0.89	U
Sodium	-		-		-		-		-		-	
Thallium	0.38	UL	0.34	UL	0.37	UL	0.39	U	0.39	U	0.67	U
Vanadium	-		-		-		-		-		-	
Zinc	15.70		12.30		19.60		15.30		30.30		13.80	B
TPH	43.90		85.30		41.10		133		94.80		6.30	U
Total Petroleum Hydrocarbons												

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD001A		SD002A		SD002B		SD003		SD004A		SD004B	
	PC-TF4-SD001A	07/29/93	PC-TF4-SD002A	07/29/93	PC-TF4-SD002B	07/29/93	PC-TF4-SD003	07/29/93	PC-TF4-SD004A	07/30/93	PC-TF4-SD004B	07/30/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	1.30	U	1.50	UL	1.30	U	1.20	U	1.20	U	1.20	U
1,1,1-Trichloroethane	3.90	U	0.36	B	3.90	U	3.60	U	3.60	U	3.60	U
1,1,2,2-Tetrachloroethane	0.86	U	0.97	UL	0.87	U	0.81	U	0.79	U	0.79	U
1,1,2-Trichloroethane	1.20	U	1.40	UL	1.20	U	1.10	U	1.10	U	1.10	U
1,1-Dichloroethane	1.10	U	1.20	UL	1.10	U	1	U	0.99	U	0.99	U
1,1-Dichloroethylene	1.20	U	1.40	UL	1.20	U	1.10	U	1.10	U	1.10	U
1,2,3-Trichloropropane	1.30	U	1.50	UL	1.30	U	1.20	U	1.20	U	1.20	U
1,2-Dibromoethane	1.90	U	2.10	UL	1.90	U	1.80	U	1.70	U	1.70	U
1,2-Dichlorobenzene	2	U	2.30	UL	2	U	1.90	U	1.80	U	1.80	U
1,2-Dichloroethane	0.93	U	1	UL	0.94	U	0.88	U	0.86	U	0.86	U
1,2-Dichloropropane	0.93	U	1	UL	0.94	U	0.88	U	0.86	U	0.86	U
1,2-trans-Dichloroethylene	1.60	U	1.80	UL	1.60	U	1.50	U	1.40	U	1.40	U
1,3-Dichlorobenzene	1.60	U	1.80	UL	1.60	U	1.50	U	1.40	U	1.40	U
1,3-cis-Dichloropropylene	1.40	U	1.50	UL	1.40	U	1.30	U	1.20	U	1.20	U
1,3-trans-Dichloropropylene	1.20	U	1.40	UL	1.20	U	1.10	U	1.10	U	1.10	U
1,4-Dichlorobenzene	2	U	2.30	UL	2	U	1.90	U	1.80	U	1.80	U
2-Chloroethylvinyl ether	1.60	U	1.80	UL	1.60	U	1.50	U	1.40	U	1.40	U
2-Chlorotoluene	1.40	U	1.60	UL	1.40	U	1.40	U	1.30	U	1.30	U
4-Chlorotoluene	1.60	U	1.80	UL	1.60	U	1.50	U	1.40	U	1.40	U
Bromobenzene	1.10	U	1.20	UL	1.10	U	1	U	0.99	U	0.99	U
Bromochloromethane	1.30	U	1.50	UL	1.30	U	1.20	U	1.20	U	1.20	U
Bromodichloromethane	1.40	U	1.60	UL	1.40	U	1.40	U	1.30	U	1.30	U
Bromoform	1.30	U	1.50	UL	1.30	U	1.20	U	1.20	U	1.20	U
Carbon Tetrachloride	0.93	U	1	UL	0.94	U	0.88	U	0.86	U	0.86	U
Chlorobenzene	1.30	U	1.50	UL	1.30	U	1.20	U	1.20	U	1.20	U
Chloroethane	3.70	U	4.20	UL	3.80	U	3.50	U	3.40	U	3.40	U
Chloroform	0.95	B	1.50	B	0.98	B	1	B	0.95	B	1.10	B
Dibromochloromethane	1.10	U	1.30	UL	1.20	U	1.10	U	1.10	U	1.10	U
Dibromomethane	1.30	U	1.50	UL	1.30	U	1.20	U	1.20	U	1.20	U
Methyl bromide	4	U	4.50	UL	4.10	U	3.80	U	3.70	U	3.70	U
Methyl chloride	3.60	U	4	UL	3.60	U	3.40	U	3.30	U	3.30	U
Methylene chloride	4.20	U	3	L	5.60	U	12	U	4.90	U	4	U
Tetrachloroethylene	1.10	U	1.30	UL	1.20	U	1.10	U	1.10	U	1.10	U
Trichloroethylene	1.10	U	1.30	UL	1.20	U	1.10	U	1.10	U	1.10	U
Vinyl chloride	3.70	U	4.20	UL	3.80	U	3.50	U	3.40	U	3.40	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD001A PC-TF4-SD001A 07/29/93		SD002A PC-TF4-SD002A 07/29/93		SD002B PC-TF4-SD002B 07/29/93		SD003 PC-TF4-SD003 07/29/93		SD004A PC-TF4-SD004A 07/30/93		SD004B PC-TF4-SD004B 07/30/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
2												
1,2-Dichlorobenzene	ug/kg	2	2.30	U	2	U	1.20	B	1.80	U	1.80	U
1,2-Dimethylbenzene	ug/kg	1.70	1.90	U	1.70	U	1.60	U	1.60	U	1.60	U
1,3-Dichlorobenzene	ug/kg	2.60	2.90	U	2.60	U	2.40	U	2.40	U	2.40	U
1,3/1,4-Dimethylbenzene	ug/kg	4.60	5.20	U	4.60	U	4.30	U	4.20	U	4.20	U
1,4-Dichlorobenzene	ug/kg	2.60	2.90	U	2.60	U	2.40	U	2.40	U	2.40	U
Benzene	ug/kg	2	2.30	U	2	U	1.90	U	1.80	U	1.80	U
Chlorobenzene	ug/kg	2.60	2.90	U	2.60	U	2.40	U	2.40	U	2.40	U
Ethylbenzene	ug/kg	2.60	2.90	U	2.60	U	2.40	U	2.40	U	2.40	U
Methyl-t-Butyl Ether	ug/kg	16	18	U	16	U	15	U	14	U	14	U
Styrene	ug/kg	2.10	2.40	U	2.20	U	2	U	2	U	2	U
Toluene	ug/kg	7.60	8.50	U	7.70	U	7.20	U	7	U	7	U
CLP 3/90												
1,2,4-Trichlorobenzene	ug/kg	470	530	U	470	U	440	U	430	U	430	U
1,2-Dichlorobenzene	ug/kg	470	530	U	470	U	440	U	430	U	430	U
1,3-Dichlorobenzene	ug/kg	470	530	U	470	U	440	U	430	U	430	U
1,4-Dichlorobenzene	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2,4,5-Trichlorophenol	ug/kg	1100	1300	U	1100	U	1100	U	1000	U	1000	U
2,4,6-Trichlorophenol	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2,4-Dichlorophenol	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2,4-Dimethylphenol	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2,4-Dinitrophenol	ug/kg	1100	1300	U	1100	U	1100	U	1000	U	1000	U
2,4-Dinitrotoluene	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2,6-Dinitrotoluene	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2-Chloronaphthalene	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2-Chlorophenol	ug/kg	1100	1300	U	1100	U	1100	U	1000	U	1000	U
2-Methyl-4,6-Dinitrophenol	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2-Methylnaphthalene	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2-Methylphenol	ug/kg	470	530	U	470	U	440	U	430	U	430	U
2-Nitroaniline	ug/kg	1100	1300	U	1100	U	1100	U	1000	U	1000	U
2-Nitrophenol	ug/kg	470	530	U	470	U	440	U	430	U	430	U
3,3'-Dichlorobenzidine	ug/kg	470	530	U	470	U	440	U	430	U	430	U
3-Nitroaniline	ug/kg	1100	1300	U	1100	U	1100	U	1000	U	1000	U
4-Bromophenyl phenyl ether	ug/kg	470	530	U	470	U	440	U	430	U	430	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD001A		SD002A		SD002B		SD003		SD004A		SD004B	
	PC-TF4-SD001A	07/29/93	PC-TF4-SD002A	07/29/93	PC-TF4-SD002B	07/29/93	PC-TF4-SD003	07/29/93	PC-TF4-SD004A	07/30/93	PC-TF4-SD004B	07/30/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloro-3-methyl phenol	470	U	530	U	470	U	440	U	430	U	430	U
4-Chloroaniline	470	U	530	U	470	U	440	U	430	U	430	U
4-Chlorophenyl phenyl ether	470	U	530	U	470	U	440	U	430	U	430	U
4-Methylphenol	470	U	130	J	470	U	440	U	430	U	430	U
4-Nitroaniline	1100	U	1300	U	1100	U	1100	U	1000	U	1000	U
4-Nitrophenol	1100	U	1300	U	1100	U	1100	U	1000	U	1000	U
Acenaphthene	470	U	530	U	470	U	440	U	430	U	430	U
Acenaphthylene	470	U	530	U	470	U	440	U	430	U	430	U
Anthracene	470	U	530	U	470	U	440	U	430	U	430	U
Benzo(a)anthracene	470	U	530	U	470	U	440	U	430	U	430	U
Benzo(a)pyrene	470	U	530	U	470	U	440	U	430	U	430	U
Benzo(b)fluoranthene	470	U	530	U	470	U	440	U	430	U	430	U
Benzo(g,h,i)perylene	470	U	530	U	470	U	440	U	430	U	430	U
Benzo(k)fluoranthene	470	U	530	U	470	U	440	U	430	U	430	U
Butyl benzyl phthalate	470	U	530	U	470	U	440	U	430	U	430	U
Carbazole	470	U	530	U	470	U	440	U	430	U	430	U
Chrysene	470	U	530	U	470	U	440	U	430	U	430	U
Di-n-butyl phthalate	470	U	56	U	470	U	440	U	430	U	430	U
Di-n-octyl phthalate	470	U	530	U	470	U	440	U	430	U	430	U
Dibenzo(a,h)anthracene	470	U	530	U	470	U	440	U	430	U	430	U
Dibenzofuran	470	U	530	U	470	U	440	U	430	U	430	U
Diethyl phthalate	470	U	530	U	470	U	440	U	430	U	430	U
Dimethyl phthalate	470	U	530	U	470	U	440	U	430	U	430	U
Fluoranthene	470	U	530	U	470	U	440	U	430	U	430	U
Fluorene	470	U	530	U	470	U	440	U	430	U	430	U
Hexachlorobenzene	470	U	530	U	470	U	440	U	430	U	430	U
Hexachlorobutadiene	470	U	530	U	470	U	440	U	430	U	430	U
Hexachlorocyclopentadiene	470	U	530	U	470	U	440	U	430	U	430	U
Hexachloroethane	470	U	530	U	470	U	440	U	430	U	430	U
Indeno(1,2,3-c,d)pyrene	470	U	530	U	470	U	440	U	430	U	430	U
Isophorone	470	U	530	U	470	U	440	U	430	U	430	U
N-Nitrosodi-N-Propylamine	470	U	530	U	470	U	440	U	430	U	430	U
N-Nitrosodiphenylamine	470	U	530	U	470	U	440	U	430	U	430	U
Naphthalene	470	U	530	U	470	U	440	U	430	U	430	U
Nitrobenzene	470	U	530	U	470	U	440	U	430	U	430	U
Pentachlorophenol	1100	U	1300	U	1100	U	1100	U	1000	U	1000	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD001A		SD002A		SD002B		SD003		SD004A		SD004B	
	PC-TF4-SD001A	07/29/93	PC-TF4-SD002A	07/29/93	PC-TF4-SD002B	07/29/93	PC-TF4-SD003	07/29/93	PC-TF4-SD004A	07/30/93	PC-TF4-SD004B	07/30/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene	470	U	530	U	470	U	440	U	430	U	430	U
Phenol	470	U	530	U	470	U	440	U	430	U	430	U
Pyrene	470	U	530	U	470	U	440	U	430	U	430	U
bis(2-Chloroethoxy)methane	470	U	530	U	470	U	440	U	430	U	430	U
bis(2-Chloroethyl) ether	470	U	530	U	470	U	440	U	430	U	430	U
bis(2-Ethylhexyl)phthalate	50	B	110	B	470	U	110	B	430	U	430	U
METALS												
Aluminum	-	UL	5.60	UL	-	UL	4.80	UL	-	UL	-	UL
Antimony	0.79	0	0.77	(L)	0.60	0	0.78	0	0.53	0	1.10	0
Arsenic	-	U	-	U	-	U	-	U	-	U	-	U
Barium	0.14	U	0.16	U	0.14	U	0.14	U	0.13	U	0.13	U
Beryllium	0.43	U	0.48	U	0.43	U	0.41	U	0.39	U	0.40	U
Cadmium	-	U	-	U	-	U	-	U	-	U	-	U
Calcium	3.80	U	3.20	U	4	U	4.60	U	3.10	U	3.50	U
Chromium	-	U	-	U	-	U	-	U	-	U	-	U
Chromium, Hexavalent	-	U	-	U	-	U	-	U	-	U	-	U
Cobalt	2.60	OB	1.40	OB	1.80	OB	1.50	OB	1.70	OB	2.10	OB
Copper	-	U	-	U	-	U	-	U	-	U	-	U
Iron	0.93	B	1.30	B	0.90	B	3	B	1.90	B	1.60	B
Lead	-	U	-	U	-	U	-	U	-	U	-	U
Magnesium	-	U	-	U	-	U	-	U	-	U	-	U
Manganese	0.14	U	0.16	U	0.14	U	0.14	U	0.13	U	0.13	U
Mercury	2.60	U	2.90	U	2.60	U	2.40	U	2.40	U	2.40	U
Nickel	-	U	-	U	-	U	-	U	-	U	-	U
Potassium	0.43	U	0.48	U	0.43	U	0.42	(L)	0.39	U	0.40	UL
Selenium	0.57	U	0.65	U	0.58	U	0.54	U	0.53	U	0.53	U
Silver	-	U	-	U	-	U	-	U	-	U	-	U
Sodium	0.43	U	0.48	U	0.43	U	0.41	U	0.39	U	0.40	U
Thallium	-	U	-	U	-	U	-	U	-	U	-	U
Vanadium	4.80	B	5.60	B	5.90	B	7.30	B	12.70	B	9.10	B
Zinc	-	U	-	U	-	U	-	U	-	U	-	U
TPH	6.30	U	6.30	U	6.30	U	6.30	U	6.30	U	6.30	U
Total Petroleum Hydrocarbons	-	U	-	U	-	U	-	U	-	U	-	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SDI04B PC-TF4-SDI04B 07/30/93		SD005A PC-TF4-SD005A 07/30/93		SD005B PC-TF4-SD005B 07/30/93		SD006A PC-TF4-SD006A 07/30/93		SD006B PC-TF4-SD006B 07/30/93		SDI06B PC-TF4-SDI06B 07/30/93		
	UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
8010	ug/kg	1.20	U	1.70	U	1.30	U	1.20	U	1.30	U	1.30	U
1,1,1,1,2-Tetrachloroethane	ug/kg	3.60	U	5.20	U	3.80	U	1.60	B	3.90	U	0.43	B
1,1,1,1-Trichloroethane	ug/kg	0.81	U	1.20	U	0.85	U	0.80	U	0.86	U	0.90	U
1,1,1,2,2-Tetrachloroethane	ug/kg	1.10	U	1.60	U	1.20	U	1.10	U	1.20	U	1.30	U
1,1,1,2-Trichloroethane	ug/kg	1	U	1.40	U	1.10	U	1	U	1.10	U	1.10	U
1,1-Dichloroethane	ug/kg	1.10	U	1.60	U	1.20	U	1.10	U	1.20	U	1.30	U
1,1,1-Dichloroethylene	ug/kg	1.20	U	1.70	U	1.30	U	1.20	U	1.30	U	1.30	U
1,2,3-Trichloropropane	ug/kg	1.80	U	2.50	U	1.80	U	1.70	U	1.90	U	1.90	U
1,2-Dibromoethane	ug/kg	1.90	U	2.70	U	2	U	1.90	U	2	U	2.10	U
1,2-Dichlorobenzene	ug/kg	0.88	U	1.20	U	0.92	U	0.87	U	0.93	U	0.97	U
1,2-Dichloroethane	ug/kg	0.88	U	1.20	U	0.92	U	0.87	U	0.93	U	0.97	U
1,2-Dichloropropane	ug/kg	0.88	U	1.20	U	0.92	U	0.87	U	0.93	U	0.97	U
1,2-trans-Dichloroethylene	ug/kg	1.50	U	2.10	U	1.50	U	1.50	U	1.60	U	1.60	U
1,3-Dichlorobenzene	ug/kg	1.50	U	2.10	U	1.50	U	1.50	U	1.60	U	1.60	U
1,3-cis-Dichloropropylene	ug/kg	1.30	U	1.80	U	1.30	U	1.30	U	1.40	U	1.40	U
1,3-trans-Dichloropropylene	ug/kg	1.10	U	1.60	U	1.20	U	1.10	U	1.20	U	1.30	U
1,4-Dichlorobenzene	ug/kg	1.90	U	2.70	U	2	U	1.90	U	2	U	2.10	U
2-Chloroethylvinyl ether	ug/kg	1.50	U	2.10	U	1.50	U	1.50	U	1.60	U	1.60	U
2-Chlorotoluene	ug/kg	1.40	U	1.90	U	1.40	U	1.30	U	1.40	U	1.50	U
4-Chlorotoluene	ug/kg	1.50	U	2.10	U	1.50	U	1.50	U	1.60	U	1.60	U
Bromobenzene	ug/kg	1	U	1.40	U	1.10	U	1	U	1.10	U	1.10	U
Bromochloromethane	ug/kg	1.20	U	1.70	U	1.30	U	1.20	U	1.30	U	1.30	U
Bromodichloromethane	ug/kg	1.40	U	1.90	U	1.40	U	1.30	U	1.40	U	1.50	U
Bromoform	ug/kg	1.20	U	1.70	U	1.30	U	1.20	U	1.30	U	1.30	U
Carbon Tetrachloride	ug/kg	0.88	U	1.20	U	0.92	U	0.87	U	0.93	U	0.97	U
Chlorobenzene	ug/kg	1.20	U	1.70	U	1.30	U	1.20	U	1.30	U	1.30	U
Chloroethane	ug/kg	3.50	U	5	U	3.70	U	3.50	U	3.70	U	3.90	U
Chloroform	ug/kg	1.10	B	1.10	B	0.95	B	0.57	B	0.74	B	0.99	B
Dibromochloromethane	ug/kg	1.10	U	1.50	U	1.10	U	1.10	U	1.10	U	1.20	U
Dibromomethane	ug/kg	1.20	U	1.70	U	1.30	U	1.20	U	1.30	U	1.30	U
Methyl bromide	ug/kg	3.80	U	5.40	U	3.90	U	3.70	U	4	U	4.20	U
Methyl chloride	ug/kg	3.40	U	4.80	U	3.50	U	3.30	U	3.60	U	3.70	U
Methylene chloride	ug/kg	3.30	B	18	B	16	B	2.90	B	2.70	B	3.90	B
Tetrachloroethylene	ug/kg	1.10	U	1.50	U	1.10	U	1.10	U	1.10	U	1.20	U
Trichloroethylene	ug/kg	1.10	U	1.50	U	1.10	U	0.09	J	1.10	U	1.20	U
Vinyl chloride	ug/kg	3.50	U	5	U	3.70	U	3.50	U	3.70	U	3.90	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SD104B	SD005A	SD005B	SD006A	SD006B	SD106B	
SAMPLE ID:	PC-TF4-SD104B	PC-TF4-SD005A	PC-TF4-SD005B	PC-TF4-SD006A	PC-TF4-SD006B	PC-TF4-SD106B	
COLLECTION DATE:	07/30/93	07/30/93	07/30/93	07/30/93	07/30/93	07/30/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
2							
1,1,2-Dichlorobenzene	ug/kg	1.90	U	2.70	U	1.90	U
1,2-Dimethylbenzene	ug/kg	1.60	U	2.30	U	1.60	U
1,3-Dichlorobenzene	ug/kg	2.40	U	3.50	U	2.40	U
1,3/1,4-Dimethylbenzene	ug/kg	4.30	U	6.20	U	4.30	U
1,4-Dichlorobenzene	ug/kg	2.40	U	3.50	U	2.40	U
Benzene	ug/kg	1.90	U	2.70	U	1.90	U
Chlorobenzene	ug/kg	2.40	U	3.50	U	2.40	U
Ethylbenzene	ug/kg	2.40	U	3.50	U	2.40	U
Methyl-t-Butyl Ether	ug/kg	15	U	21	U	15	U
Styrene	ug/kg	2	U	2.90	U	2	U
Toluene	ug/kg	7.20	U	10	U	7.10	U
CLP 3/90							
1,2,4-Trichlorobenzene	ug/kg	440	U	630	U	430	U
1,2-Dichlorobenzene	ug/kg	440	U	630	U	430	U
1,3-Dichlorobenzene	ug/kg	440	U	630	U	430	U
1,4-Dichlorobenzene	ug/kg	440	U	630	U	430	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	440	U	630	U	430	U
2,4,5-Trichlorophenol	ug/kg	1100	U	1500	U	1100	U
2,4,6-Trichlorophenol	ug/kg	440	U	630	U	430	U
2,4-Dichlorophenol	ug/kg	440	U	630	U	430	U
2,4-Dimethylphenol	ug/kg	440	U	630	U	430	U
2,4-Dinitrophenol	ug/kg	1100	U	1500	U	1100	U
2,4-Dinitrotoluene	ug/kg	440	U	630	U	470	U
2,6-Dinitrotoluene	ug/kg	440	U	630	U	470	U
2-Chloronaphthalene	ug/kg	440	U	630	U	470	U
2-Chlorophenol	ug/kg	440	U	630	U	470	U
2-Methyl-4,6-Dinitrophenol	ug/kg	1100	U	1500	U	1100	U
2-Methylnaphthalene	ug/kg	440	U	630	U	470	U
2-Methylphenol	ug/kg	440	U	630	U	470	U
2-Nitroaniline	ug/kg	1100	U	1500	U	1100	U
2-Nitrophenol	ug/kg	440	U	630	U	470	U
3,3'-Dichlorobenzidine	ug/kg	440	U	630	U	470	U
3-Nitroaniline	ug/kg	1100	U	1500	U	1100	U
4-Bromophenyl phenyl ether	ug/kg	440	U	630	U	470	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD104B		SD005A		SD005B		SD006A		SD006B		SD106B	
	PC-TF4-SD104B		PC-TF4-SD005A		PC-TF4-SD005B		PC-TF4-SD006A		PC-TF4-SD006B		PC-TF4-SD106B	
	07/30/93		07/30/93		07/30/93		07/30/93		07/30/93		07/30/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloro-3-methyl phenol	440	U	630	U	430	U	430	U	470	U	490	U
4-Chloroaniline	440	U	630	U	430	U	430	U	470	U	490	U
4-Chlorophenyl phenyl ether	440	U	630	U	430	U	430	U	470	U	490	U
4-Methylphenol	440	U	630	U	430	U	430	U	470	U	54	J
4-Nitroaniline	1100	U	1500	U	1100	U	1100	U	1100	U	1200	U
4-Nitrophenol	1100	U	1500	U	1100	U	1100	U	1100	U	1200	U
Acenaphthene	440	U	630	U	430	U	430	U	470	U	490	U
Acenaphthylene	440	U	630	U	430	U	430	U	470	U	490	U
Anthracene	440	U	630	U	430	U	430	U	470	U	490	U
Benzo(a)anthracene	440	U	630	U	430	U	430	U	470	U	490	U
Benzo(a)pyrene	440	U	630	U	430	U	430	U	470	U	490	U
Benzo(b)fluoranthene	440	U	630	U	430	U	430	U	470	U	490	U
Benzo(ghi)perylene	440	U	630	U	430	U	430	U	470	U	490	U
Benzo(k)fluoranthene	440	U	630	U	430	U	430	U	470	U	490	U
Butyl benzyl phthalate	440	U	630	U	430	U	430	U	470	U	490	U
Carbazole	440	U	630	U	430	U	430	U	470	U	490	U
Chrysene	440	U	630	U	430	U	430	U	470	U	490	U
Di-n-butyl phthalate	440	U	630	U	430	U	430	U	470	U	490	U
Di-n-octyl phthalate	440	U	630	U	430	U	430	U	470	U	490	U
Dibenzo(a,h)anthracene	440	U	630	U	430	U	430	U	470	U	490	U
Dibenzofuran	440	U	630	U	430	U	430	U	470	U	490	U
Diethyl phthalate	440	U	630	U	430	U	430	U	470	U	490	U
Dimethyl phthalate	440	U	630	U	430	U	430	U	470	U	490	U
Fluoranthene	440	U	630	U	430	U	430	U	470	U	490	U
Fluorene	440	U	630	U	430	U	430	U	470	U	490	U
Hexachlorobenzene	440	U	630	U	430	U	430	U	470	U	490	U
Hexachlorobutadiene	440	U	630	U	430	U	430	U	470	U	490	U
Hexachlorocyclopentadiene	440	U	630	U	430	U	430	U	470	U	490	U
Hexachloroethane	440	U	630	U	430	U	430	U	470	U	490	U
Indeno(1,2,3-c,d)pyrene	440	U	630	U	430	U	430	U	470	U	490	U
Isophorone	440	U	630	U	430	U	430	U	470	U	490	U
N-Nitrosodi-N-Propylamine	440	U	630	U	430	U	430	U	470	U	490	U
N-Nitrosodiphenylamine	440	U	630	U	430	U	430	U	470	U	490	U
Naphthalene	440	U	630	U	430	U	430	U	470	U	490	U
Nitrobenzene	440	U	630	U	430	U	430	U	470	U	490	U
Pentachlorophenol	1100	U	1500	U	1100	U	1100	U	1100	U	1200	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD104B		SD005A		SD005B		SD006A		SD006B		SD106B	
	PC-TF4-SD104B	07/30/93	PC-TF4-SD005A	07/30/93	PC-TF4-SD005B	07/30/93	PC-TF4-SD006A	07/30/93	PC-TF4-SD006B	07/30/93	PC-TF4-SD106B	07/30/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene	440	U	630	U	430	U	430	U	470	U	490	U
Phenol	440	U	630	U	430	U	430	U	470	U	490	U
Pyrene	440	U	630	U	430	U	430	U	470	U	490	U
bis(2-Chloroethoxy)methane	440	U	630	U	430	U	430	U	470	U	490	U
bis(2-Chloroethyl) ether	440	U	630	U	430	U	430	U	470	U	490	U
bis(2-Ethylhexyl)phthalate	440	U	100	B	430	U	280	B	470	U	60	B
METALS												
Aluminum	-	UL	6.70	UL	-	UL	4.60	UL	-	UL	-	UL
Antimony	4.70	UL	1.20	0	4.70	UL	1.70	UL	5	UL	5.20	UL
Arsenic	0.85	0	-	-	0.54	U	-	-	0.53	UL	1.30	0
Barium	-	U	-	U	-	U	-	U	-	U	-	U
Beryllium	0.13	U	0.19	U	0.13	U	0.13	U	0.14	U	0.15	U
Cadmium	0.40	U	0.58	U	0.40	U	0.40	U	0.43	U	0.45	U
Calcium	-	U	-	U	-	U	-	U	-	U	-	U
Chromium	3.80	U	6.30	U	4.10	U	4.10	U	3.60	U	4.20	U
Chromium, Hexavalent	-	U	-	U	-	U	-	U	-	U	-	U
Cobalt	-	U	-	U	-	U	-	U	-	U	-	U
Copper	2.10	OB	6.20	B	1.40	OB	2.40	OB	1.90	OB	1.90	OB
Iron	-	U	-	U	-	U	-	U	-	U	-	U
Lead	1.40	B	8.10	B	1.60	B	3.80	B	1.20	B	1.90	B
Magnesium	-	U	-	U	-	U	-	U	-	U	-	U
Manganese	-	U	-	U	-	U	-	U	-	U	-	U
Mercury	0.13	U	0.19	U	0.13	U	0.13	U	0.14	U	0.15	U
Nickel	2.60	0	3.50	U	2.40	U	2.40	U	2.60	U	2.70	U
Potassium	-	U	-	U	-	U	-	U	-	U	-	U
Selenium	0.40	U	0.72	(L)	0.40	U	0.40	U	0.43	U	0.45	U
Silver	0.54	U	0.77	U	0.54	U	0.53	U	0.57	U	0.60	U
Sodium	-	U	-	U	-	U	-	U	-	U	-	U
Thallium	0.40	U	0.58	U	0.40	U	0.40	U	0.43	U	0.45	UL
Vanadium	-	U	-	U	-	U	-	U	-	U	-	U
Zinc	8.50	B	8.90	B	6.90	B	8.60	B	10.50	B	8.30	B
TPH	6.30	U	6.30	U	6.30	U	47.30	U	51.90	U	593	U
Total Petroleum Hydrocarbons	6.30	U	6.30	U	6.30	U	47.30	U	51.90	U	593	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD007		SD008		SD009A		SD009B		SD010A		SD010B	
	PC-TF4-SD007		PC-TF4-SD008		PC-TF4-SD009A		PC-TF4-SD009B		PC-TF4-SD010A		PC-TF4-SD010B	
	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	1.20	U	1.20	U	0.94	U	1.10	U	1.40	U	R	B
1,1,1-Trichloroethane	3.60	U	3.60	U	2.80	U	3.40	U	4.20	U	0.28	B
1,1,2,2-Tetrachloroethane	0.80	U	0.79	U	0.63	U	0.76	U	0.92	U	R	
1,1,2-Trichloroethane	1.10	U	1.10	U	0.89	U	1.10	U	1.30	U	R	
1,1-Dichloroethane	1	U	0.99	U	0.78	U	0.95	U	1.20	U	R	U
1,1-Dichloroethylene	1.10	U	1.10	U	0.89	U	1.10	U	1.30	U	0.89	U
1,2,3-Trichloropropane	1.20	U	1.20	U	0.94	U	1.10	U	1.40	U	R	
1,2-Dibromoethane	1.70	U	1.70	U	1.40	U	1.60	U	2	U	1.40	U
1,2-Dichlorobenzene	1.90	U	1.80	U	1.50	U	1.80	U	2.20	U	R	
1,2-Dichloroethane	0.87	U	0.86	U	0.68	U	0.82	U	1	U	R	
1,2-Dichloropropane	0.87	U	0.86	U	0.68	U	0.82	U	1	U	R	
1,2-trans-Dichloroethylene	1.50	U	1.40	U	1.10	U	1.40	U	1.70	U	R	
1,3-Dichlorobenzene	1.30	U	1.40	U	1.10	U	1.40	U	1.70	U	R	
1,3-cis-Dichloropropylene	1.50	U	1.20	U	0.99	U	1.20	U	1.50	U	R	
1,3-trans-Dichloropropylene	1.10	U	1.10	U	0.89	U	1.10	U	1.30	U	0.89	U
1,4-Dichlorobenzene	1.90	U	1.80	U	1.50	U	1.80	U	2.20	U	R	
2-Chloroethylvinyl ether	1.50	U	1.40	U	1.10	U	1.40	U	1.70	U	1.10	U
2-Chlorotoluene	1.30	U	1.30	U	1	U	1.30	U	1.50	U	R	
4-Chlorotoluene	1.50	U	1.40	U	1.10	U	1.40	U	1.70	U	R	
Bromobenzene	1	U	0.99	U	0.78	U	0.95	U	1.20	U	R	
Bromochloromethane	1.20	U	1.20	U	0.94	U	1.10	U	1.40	U	R	
Bromodichloromethane	1.30	U	1.30	U	1	U	1.30	U	1.50	U	1	U
Bromoform	1.20	U	1.20	U	0.94	U	1.10	U	1.40	U	0.94	U
Carbon Tetrachloride	0.87	U	0.86	U	0.68	U	0.82	U	1	U	R	
Chlorobenzene	1.20	U	1.20	U	0.94	U	1.10	U	1.40	U	R	
Chloroethane	3.50	U	3.40	U	2.70	U	3.30	U	4	U	2.70	U
Chloroform	0.82	B	0.72	B	0.68	B	0.74	B	0.82	B	0.54	B
Dibromochloromethane	1.10	U	1.10	U	0.83	U	1	U	1.20	U	0.83	U
Dibromomethane	1.20	U	1.20	U	0.94	U	1.10	U	1.40	U	R	
Methyl bromide	3.70	U	3.70	U	2.90	U	3.50	U	4.30	U	2.90	U
Methyl chloride	3.30	U	3.30	U	2.60	U	3.20	U	3.80	U	2.60	U
Methylene chloride	4.70	B	4	U	1.90	U	1.30	U	1.50	U	2.70	B
Tetrachloroethylene	1.10	U	1.10	U	0.83	U	1	U	1.20	U	R	
Trichloroethylene	1.10	U	1.10	U	0.83	U	1	U	1.20	U	R	
Vinyl chloride	3.50	U	3.40	U	2.70	U	3.30	U	4	U	2.70	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SD007	SD008	SD009A	SD009B	SD010A	SD010B
SAMPLE ID:		PC-TF4-SD007	PC-TF4-SD008	PC-TF4-SD009A	PC-TF4-SD009B	PC-TF4-SD010A	PC-TF4-SD010B
COLLECTION DATE:		07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
2	ug/kg	3	B	1.50	UJ	2.20	UJ
1,2-Dichlorobenzene	ug/kg	1.60	U	1.30	UJ	1.80	UJ
1,2-Dimethylbenzene	ug/kg	2.40	U	1.90	UJ	2.80	UJ
1,3-Dichlorobenzene	ug/kg	4.30	U	3.30	UJ	4.90	UJ
1,3/1,4-Dimethylbenzene	ug/kg	2.40	U	1.90	UJ	2.80	UJ
1,4-Dichlorobenzene	ug/kg	1.90	U	1.50	UJ	2.20	UJ
Benzene	ug/kg	2.40	U	1.90	UJ	2.80	UJ
Chlorobenzene	ug/kg	2.40	U	1.90	UJ	2.80	UJ
Ethylbenzene	ug/kg	15	U	11	UJ	17	UJ
Methyl-t-Butyl Ether	ug/kg	2	U	1.60	UJ	2.30	UJ
Styrene	ug/kg	7.10	U	5.50	UJ	8.20	UJ
Toluene	ug/kg						
CLP 3/90	ug/kg						
1,2,4-Trichlorobenzene	ug/kg	430	U	340	U	500	U
1,2-Dichlorobenzene	ug/kg	430	U	340	U	500	U
1,3-Dichlorobenzene	ug/kg	430	U	340	U	500	U
1,4-Dichlorobenzene	ug/kg	430	U	340	U	500	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	1100	U	820	U	1200	U
2,4,5-Trichlorophenol	ug/kg	430	U	340	U	500	U
2,4,6-Trichlorophenol	ug/kg	430	U	340	U	500	U
2,4-Dichlorophenol	ug/kg	430	U	340	U	500	U
2,4-Dimethylphenol	ug/kg	430	U	340	U	500	U
2,4-Dinitrophenol	ug/kg	1100	U	820	U	1200	U
2,4-Dinitrotoluene	ug/kg	430	U	340	U	500	U
2,6-Dinitrotoluene	ug/kg	430	U	340	U	500	U
2-Chloronaphthalene	ug/kg	430	U	340	U	500	U
2-Chlorophenol	ug/kg	1100	U	820	U	1200	U
2-Methyl-4,6-Dinitrophenol	ug/kg	430	U	340	U	500	U
2-Methylnaphthalene	ug/kg	430	U	340	U	500	U
2-Methylphenol	ug/kg	430	U	340	U	500	U
2-Nitroaniline	ug/kg	1100	U	820	U	1200	U
2-Nitrophenol	ug/kg	430	U	340	U	500	U
3,3'-Dichlorobenzidine	ug/kg	430	U	340	U	500	U
3-Nitroaniline	ug/kg	1100	U	820	U	1200	U
4-Bromophenyl phenyl ether	ug/kg	430	U	340	U	500	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SD007	SD008	SD009A	SD009B	SD010A	SD010B
SAMPLE ID:	PC-TF4-SD007	PC-TF4-SD008	PC-TF4-SD009A	PC-TF4-SD009B	PC-TF4-SD010A	PC-TF4-SD010B
COLLECTION DATE:	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93	07/31/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloro-3-methyl phenol	ug/kg	430	U	430	U	430
4-Chloroaniline	ug/kg	430	U	430	U	430
4-Chlorophenyl phenyl ether	ug/kg	430	U	430	U	430
4-Methylphenol	ug/kg	430	U	430	U	430
4-Nitroaniline	ug/kg	1100	U	1000	U	820
4-Nitrophenol	ug/kg	1100	U	1000	U	820
Acenaphthene	ug/kg	430	U	430	U	430
Acenaphthylene	ug/kg	430	U	430	U	430
Anthracene	ug/kg	430	U	430	U	430
Benzo(a)anthracene	ug/kg	430	U	430	U	430
Benzo(b)pyrene	ug/kg	430	U	430	U	430
Benzo(b)fluoranthene	ug/kg	430	U	430	U	430
Benzo(ghi)perylene	ug/kg	430	U	430	U	430
Benzo(k)fluoranthene	ug/kg	430	U	430	U	430
Butyl benzyl phthalate	ug/kg	430	U	430	U	430
Carbazole	ug/kg	430	U	430	U	430
Chrysene	ug/kg	430	U	430	U	430
Di-n-butyl phthalate	ug/kg	430	U	430	U	430
Di-n-octyl phthalate	ug/kg	430	U	430	U	430
Dibenzo(a,h)anthracene	ug/kg	430	U	430	U	430
Dibenzofuran	ug/kg	430	U	430	U	430
Diethyl phthalate	ug/kg	430	U	430	U	430
Dimethyl phthalate	ug/kg	430	U	430	U	430
Fluoranthene	ug/kg	430	U	430	U	430
Fluorene	ug/kg	430	U	430	U	430
Hexachlorobenzene	ug/kg	430	U	430	U	430
Hexachlorobutadiene	ug/kg	430	U	430	U	430
Hexachlorocyclopentadiene	ug/kg	430	U	430	U	430
Hexachloroethane	ug/kg	430	U	430	U	430
Indeno(1,2,3-c,d)pyrene	ug/kg	430	U	430	U	430
Isophorone	ug/kg	430	U	430	U	430
N-Nitrosodi-N-Propylamine	ug/kg	430	U	430	U	430
N-Nitrosodiphenylamine	ug/kg	430	U	430	U	430
Naphthalene	ug/kg	430	U	430	U	430
Nitrobenzene	ug/kg	430	U	430	U	430
Pentachlorophenol	ug/kg	1100	U	1000	U	820

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD007		SD008		SD009A		SD009B		SD010A		SD010B	
	PC-TF4-SD007	07/31/93	PC-TF4-SD008	07/31/93	PC-TF4-SD009A	07/31/93	PC-TF4-SD009B	07/31/93	PC-TF4-SD010A	07/31/93	PC-TF4-SD010B	07/31/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene	430	U	430	U	340	U	410	U	500	U	340	U
Phenol	430	U	430	U	340	U	410	U	500	U	340	U
Pyrene	430	U	430	U	340	U	410	U	500	U	340	U
bis(2-Chloroethoxy)methane	430	U	430	U	340	U	410	U	500	U	340	U
bis(2-Chloroethyl) ether	430	U	430	U	340	U	410	U	500	U	340	U
bis(2-Ethylhexyl)phthalate	430	U	430	U	42	B	46	B	55	B	41	B
METALS												
Aluminum	-	UL	4.60	UL	3.60	UL	4.40	UL	5.40	UL	-	UL
Antimony	4.60	U	0.53	U	0.61	(L)	0.90	0	0.85	(L)	3.60	(L)
Arsenic	0.53	U	-	-	-	-	-	-	-	-	0.65	(L)
Barium	-	U	0.13	U	0.10	U	0.13	QB	0.15	U	-	U
Beryllium	0.40	U	0.39	U	0.31	U	0.38	U	0.46	U	0.10	U
Cadmium	-	U	-	-	-	-	-	-	-	-	0.31	U
Calcium	2.40	U	3.90	U	2.90	U	5.60	U	4.40	U	-	U
Chromium	-	U	-	U	-	U	-	U	-	U	2.40	U
Chromium, Hexavalent	-	U	-	U	-	U	-	U	-	U	-	U
Cobalt	-	U	-	U	-	U	-	U	-	U	-	U
Copper	0.78	QB	1.60	QB	1.70	QB	3.20	B	4.50	B	1.70	QB
Iron	-	U	-	U	-	U	-	U	-	U	-	U
Lead	0.93	B	4.60	B	3.90	B	1.10	B	14.50	B	3.40	B
Magnesium	-	U	-	U	-	U	-	U	-	U	-	U
Manganese	-	U	-	U	-	U	-	U	-	U	-	U
Mercury	0.13	U	0.13	U	0.10	U	0.13	U	0.15	U	0.10	U
Nickel	2.40	U	2.40	U	1.90	U	4.50	0	3	0	2.50	0
Potassium	-	U	-	U	-	U	-	U	-	U	-	U
Selenium	0.40	U	0.39	U	0.31	U	0.38	U	0.46	U	0.31	UL
Silver	0.53	U	0.53	U	0.41	U	0.51	U	0.61	U	0.42	U
Sodium	-	U	-	U	-	U	-	U	-	U	-	U
Thallium	0.40	U	0.39	U	0.31	U	0.38	U	0.46	U	0.31	U
Vanadium	-	U	-	U	-	U	-	U	-	U	-	U
Zinc	6.30	B	10.60	B	10.20	B	12.20	B	79.20	B	7.80	B
TPH	6.30	U	10	U	6.30	U	6.30	U	23.70	U	6.30	U
Total Petroleum Hydrocarbons	6.30	U	10	U	6.30	U	6.30	U	23.70	U	6.30	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD011		SD012		SD013		SD014		SD015		SD115	
	PC-TF4-SD011		PC-TF4-SD012		PC-TF4-SD013		PC-TF4-SD014		PC-TF4-SD015		PC-TF4-SD115	
	08/01/93		08/01/93		08/01/93		08/01/93		08/01/93		08/01/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
1,1,1-Trichloroethane	0.34	B	3.70	U	3.70	U	0.37	B	3.60	U	0.37	B
1,1,2,2-Tetrachloroethane	0.79	U	0.83	U	0.82	U	0.80	U	0.80	U	0.80	U
1,1,2-Trichloroethane	1.10	U	1.20	U	1.20	U	1.10	U	1.10	U	1.10	U
1,1-Dichloroethane	0.99	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethylene	1.10	U	1.20	U	1.20	U	1.10	U	1.10	U	1.10	U
1,2,3-Trichloropropane	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
1,2-Dibromoethane	1.70	U	1.80	U	1.80	U	1.70	U	1.70	U	1.70	U
1,2-Dichlorobenzene	1.80	U	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
1,2-Dichloroethane	0.86	U	0.90	U	0.89	U	0.87	U	0.87	U	0.87	U
1,2-Dichloropropane	0.86	U	0.90	U	0.89	U	0.87	U	0.87	U	0.87	U
1,2-trans-Dichloroethylene	1.40	U	1.50	U	1.50	U	1.50	U	1.50	U	1.50	U
1,3-Dichlorobenzene	1.40	U	1.50	U	1.50	U	1.50	U	1.50	U	1.50	U
1,3-cis-Dichloropropylene	1.20	U	1.30	U	1.30	U	1.30	U	1.30	U	1.30	U
1,3-trans-Dichloropropylene	1.10	U	1.20	U	1.20	U	1.10	U	1.10	U	1.10	U
1,4-Dichlorobenzene	1.80	U	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
2-Chloroethylvinyl ether	1.40	U	1.50	U	1.50	U	1.50	U	1.50	U	1.50	U
2-Chlorotoluene	1.30	U	1.40	U	1.40	U	1.30	U	1.30	U	1.30	U
4-Chlorotoluene	1.40	U	1.50	U	1.50	U	1.50	U	1.50	U	1.50	U
Bromobenzene	0.99	U	1	U	1	U	1	U	1	U	1	U
Bromochloromethane	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
Bromodichloromethane	1.30	U	1.40	U	1.40	U	1.30	U	1.30	U	1.30	U
Bromoform	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
Carbon Tetrachloride	0.86	U	0.90	U	0.89	U	0.87	U	0.87	U	0.87	U
Chlorobenzene	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
Chloroethane	3.40	U	3.60	U	3.60	U	3.50	U	3.50	U	3.50	U
Chloroform	1.20	B	1	B	1.10	B	1.20	B	0.96	B	1.20	B
Dibromochloromethane	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U
Dibromomethane	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U	1.20	U
Methyl bromide	3.70	U	3.90	U	3.80	U	3.70	U	3.70	U	3.70	U
Methyl chloride	3.30	U	3.50	U	3.40	U	3.30	U	3.30	U	3.30	U
Methylene chloride	2	B	2.10	B	4.90	B	4.10	U	1.30	U	6.90	B
Tetrachloroethylene	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U
Trichloroethylene	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U	1.10	U
Vinyl chloride	3.40	U	3.60	U	3.60	U	3.50	U	3.50	U	3.50	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

SD011
PC-TF4-SD011
08/01/93

SD012
PC-TF4-SD012
08/01/93

SD013
PC-TF4-SD013
08/01/93

SD014
PC-TF4-SD014
08/01/93

SD015
PC-TF4-SD015
08/01/93

SD115
PC-TF4-SD115
08/01/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

2	ug/kg	1.80	U	1.90	U	1.90	U	1.90	U	1.90	U	1.20	U
1,2-Dichlorobenzene	ug/kg	1.60	U	1.70	U	1.60	U	1.60	U	1.60	U	1.60	U
1,2-Dimethylbenzene	ug/kg	2.40	U	2.50	U	2.50	U	2.40	U	2.40	U	2.40	U
1,3-Dichlorobenzene	ug/kg	4.20	U	4.40	U	4.40	U	4.30	U	4.30	U	4.30	U
1,3/1,4-Dimethylbenzene	ug/kg	2.40	U	2.50	U	2.50	U	2.40	U	2.40	U	2.40	U
1,4-Dichlorobenzene	ug/kg	1.80	U	1.90	U	1.90	U	1.90	U	1.90	U	1.90	U
Benzene	ug/kg	2.40	U	2.50	U	2.50	U	2.40	U	2.40	U	2.40	U
Chlorobenzene	ug/kg	2.40	U	2.50	U	2.50	U	2.40	U	2.40	U	2.40	U
Ethylbenzene	ug/kg	14	U	15	U	15	U	3.80	U	15	U	15	U
Methyl-t-Butyl Ether	ug/kg	2	U	2.10	U	2.10	U	2	U	2	U	2	U
Styrene	ug/kg	7	U	7.40	U	7.30	U	7.10	U	7.10	U	7.10	U
Toluene	ug/kg												
CLP 3/90	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
1,2,4-Trichlorobenzene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
1,2-Dichlorobenzene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
1,3-Dichlorobenzene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
1,4-Dichlorobenzene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	1000	U	1100	U	1100	U	1100	U	1100	U	1000	U
2,4,5-Trichlorophenol	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2,4,6-Trichlorophenol	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2,4-Dichlorophenol	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2,4-Dimethylphenol	ug/kg	1000	U	1100	U	1100	U	1100	U	1100	U	1000	U
2,4-Dinitrophenol	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2,4-Dinitrotoluene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2,6-Dinitrotoluene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2-Chloronaphthalene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2-Chlorophenol	ug/kg	1000	U	1100	U	1100	U	1100	U	1100	U	1000	U
2-Methyl-4,6-Dinitrophenol	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2-Methylnaphthalene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2-Methylphenol	ug/kg	1000	U	1100	U	1100	U	1100	U	1100	U	1000	U
2-Nitroaniline	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
2-Nitrophenol	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
3,3'-Dichlorobenzidine	ug/kg	1000	U	1100	U	1100	U	1100	U	1100	U	1000	U
3-Nitroaniline	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
4-Bromophenyl phenyl ether	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	SD011		SD012		SD013		SD014		SD015		SDI15	
		PC-TF4-SD011		PC-TF4-SD012		PC-TF4-SD013		PC-TF4-SD014		PC-TF4-SD015		PC-TF4-SDI15	
		08/01/93	08/01/93	08/01/93	08/01/93	08/01/93	08/01/93	08/01/93	08/01/93	08/01/93	08/01/93	08/01/93	08/01/93
RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloro-3-methyl phenol	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
4-Chloroaniline	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
4-Chlorophenyl phenyl ether	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
4-Methylphenol	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
4-Nitroaniline	ug/kg	1000	U	1100	U	1100	U	1100	U	1100	U	1000	U
4-Nitrophenol	ug/kg	1000	U	1100	U	1100	U	1100	U	1100	U	1000	U
Acenaphthene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Acenaphthylene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Anthracene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Benzo(a)anthracene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Benzo(a)pyrene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Benzo(b)fluoranthene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Benzo(ghi)perylene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Benzo(k)fluoranthene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Butyl benzyl phthalate	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Carbazole	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Chrysene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Di-n-butyl phthalate	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Di-n-octyl phthalate	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Dibenzo(a,h)anthracene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Dibenzofuran	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Diethyl phthalate	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Dimethyl phthalate	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Fluoranthene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Fluorene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Hexachlorobenzene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Hexachlorobutadiene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Hexachlorocyclopentadiene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Hexachloroethane	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Indeno(1,2,3-c,d)pyrene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Isophorone	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
N-Nitrosodi-N-Propylamine	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
N-Nitrosodiphenylamine	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Naphthalene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Nitrobenzene	ug/kg	430	U	450	U	450	U	430	U	440	U	430	U
Pentachlorophenol	ug/kg	1000	U	1100	U	1100	U	1100	U	1100	U	1000	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD011		SD012		SD013		SD014		SD015		SD115	
	PC-TF4-SD011	08/01/93	PC-TF4-SD012	08/01/93	PC-TF4-SD013	08/01/93	PC-TF4-SD014	08/01/93	PC-TF4-SD015	08/01/93	PC-TF4-SD115	08/01/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene	430	U	450	U	450	U	430	U	440	U	430	U
Phenol	430	U	450	U	450	U	430	U	440	U	430	U
Pyrene	430	U	450	U	450	U	430	U	440	U	430	U
bis(2-Chloroethoxy)methane	430	U	450	U	450	U	430	U	440	U	430	U
bis(2-Chloroethyl) ether	430	U	450	U	450	U	430	U	440	U	430	U
bis(2-Ethylhexyl)phthalate	430	U	47	B	450	U	430	U	440	U	430	U
METALS												
Aluminum	1240	UL	1340	UL	1590	UL	1850	UL	-	UL	1290	UL
Antimony	6	UL	6.30	UL	6.20	UL	6	UL	4.60	UL	5.90	UL
Arsenic	0.53	U	0.83	0	0.71	0	0.68	0	0.53	U	0.53	0
Barium	4.40	0	5.30	0	3.70	0	6.30	0	-	0	3.10	0
Beryllium	0.53	U	0.56	U	0.55	U	0.53	U	0.13	U	0.53	U
Cadmium	0.66	U	0.70	U	0.69	U	0.66	U	0.40	U	0.66	U
Calcium	943		16300		3730		3120		-		8570	
Chromium	2.90		2.40		3.30		3.30		2.80		2.10	
Chromium, Hexavalent	-		-		-		-		-		-	
Cobalt	1.20	U	1.30	U	1.20	U	1.30	0	-		1.20	U
Copper	2	U	2.10	U	2.10	U	2	U	1.40	OB	2	U
Iron	1720		1970		1970		2250		-		1760	
Lead	0.77	B	1.70	B	1.30	B	2.30	B	0.77	B	0.80	B
Magnesium	691		2090		779		1060		-		681	
Manganese	16.90		27.50		20.30		20		-		24	
Mercury	0.13	U	0.14	U	0.14	U	0.13	U	0.13	U	0.13	U
Nickel	4.60	U	4.90	U	4.80	U	4.60	U	2.40	U	4.60	U
Potassium	302		319		313		303		-		302	
Selenium	0.40	U	0.42	U	0.41	U	0.40	UL	0.40	UL	0.40	U
Silver	0.53	U	0.56	U	0.55	U	0.53	U	0.53	U	0.53	U
Sodium	43.50	0	51.50	0	42.20	0	48.80	0	-		49.50	0
Thallium	0.40	U	0.42	U	0.41	U	0.40	U	0.40	U	0.40	U
Vanadium	3.60	0	3.70	0	4.20	0	5.20	0	-		3.50	0
Zinc	4.40	B	5.80	B	4.80	B	8.30	B	14.30	B	5.80	B
TPH												
Total Petroleum Hydrocarbons	24.70		27.50		21.50		41.10		22.30		10.30	

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

SD016
PC-TF4-SD016
08/01/93

SD017
PC-TF4-SD017
08/01/93

SD018
PC-TF4-SD018
08/01/93

SD1
PC-LF6-SD1
08/17/93

SD2
PC-LF6-SD2
08/17/93

SD3
PC-LF6-SD3
08/17/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

8010	ug/kg	1.70	U	6	UJ	2.90	U	2.90	U	0.90	UJ	1.30	UJ
1,1,1,2-Tetrachloroethane	ug/kg	5.20	U	18	UJ	1.10	B	3.30	B	2.70	UJ	3.90	UJ
1,1,1-Trichloroethane	ug/kg	1.20	U	4	UJ	1.90	U	1.90	U	0.60	UJ	0.86	UJ
1,1,2,2-Tetrachloroethane	ug/kg	1.60	U	5.70	UJ	2.70	U	2.70	U	0.85	UJ	1.20	UJ
1,1,2-Trichloroethane	ug/kg	1.40	U	5	UJ	2.40	U	2.40	U	0.75	UJ	1.10	UJ
1,1-Dichloroethane	ug/kg	1.60	U	5.70	UJ	2.70	U	2.70	U	0.85	UJ	1.20	UJ
1,1-Dichloroethylene	ug/kg	1.70	U	6	UJ	2.90	U	2.90	U	0.90	UJ	1.30	UJ
1,2,3-Trichloropropane	ug/kg	2.50	U	8.70	UJ	4.20	U	4.20	U	1.30	UJ	1.90	UJ
1,2-Dibromomethane	ug/kg	2.70	U	9.30	UJ	4.50	U	4.50	U	1.40	UJ	2	UJ
1,2-Dichlorobenzene	ug/kg	1.20	U	4.30	UJ	2.10	U	2.10	U	0.65	UJ	0.93	UJ
1,2-Dichloroethane	ug/kg	1.20	U	4.30	UJ	2.10	U	2.10	U	0.65	UJ	0.93	UJ
1,2-Dichloropropane	ug/kg	2.10	U	7.30	UJ	3.50	U	3.50	U	1.10	UJ	1.60	UJ
1,2-trans-Dichloroethylene	ug/kg	2.10	U	7.30	UJ	3.50	U	3.50	U	1.10	UJ	1.60	UJ
1,3-Dichlorobenzene	ug/kg	1.80	U	6.30	UJ	3.10	U	3.10	U	0.95	UJ	1.40	UJ
1,3-cis-Dichloropropylene	ug/kg	1.60	U	5.70	UJ	2.70	U	2.70	U	0.85	UJ	1.20	UJ
1,3-trans-Dichloropropylene	ug/kg	2.70	U	9.30	UJ	4.50	U	4.50	U	1.40	UJ	2	UJ
1,4-Dichlorobenzene	ug/kg	2.10	U	7.30	UJ	3.50	U	3.50	U	1.10	UJ	1.60	UJ
2-Chloroethylvinyl ether	ug/kg	1.90	U	6.70	UJ	3.20	U	3.20	U	1	UJ	1.40	UJ
2-Chlorotoluene	ug/kg	2.10	U	7.30	UJ	3.50	U	3.50	U	1.10	UJ	1.60	UJ
4-Chlorotoluene	ug/kg	1.40	U	5	UJ	2.40	U	2.40	U	0.75	UJ	1.10	UJ
Bromobenzene	ug/kg	1.70	U	6	UJ	2.90	U	2.90	U	0.90	UJ	1.30	UJ
Bromochloromethane	ug/kg	1.90	U	6.70	UJ	3.20	U	3.20	U	1	UJ	1.40	UJ
Bromodichloromethane	ug/kg	1.70	U	6	UJ	2.90	U	2.90	U	0.65	UJ	0.93	UJ
Bromoform	ug/kg	1.20	U	4.30	UJ	2.10	U	2.10	U	0.90	UJ	1.30	UJ
Carbon Tetrachloride	ug/kg	1.70	U	6	UJ	2.90	U	2.90	U	0.65	UJ	0.93	UJ
Chlorobenzene	ug/kg	5	B	17	UJ	8.40	U	8.40	U	2.60	UJ	3.70	UJ
Chloroethane	ug/kg	0.92	B	3.20	J	2.10	B	1.20	B	0.38	B	0.23	B
Chloroform	ug/kg	1.50	U	5.30	UJ	2.60	U	2.60	U	0.80	UJ	1.10	UJ
Dibromochloromethane	ug/kg	1.70	U	6	UJ	2.90	U	2.90	U	0.90	UJ	1.30	UJ
Dibromomethane	ug/kg	5.40	U	19	UJ	9	U	9	U	2.80	UJ	4	UJ
Methyl bromide	ug/kg	4.80	U	17	UJ	8.10	U	8.10	U	2.50	UJ	3.60	UJ
Methylene chloride	ug/kg	5.90	U	0.77	B	6.20	U	1.90	B	4.80	B	1.70	B
Tetrachloroethylene	ug/kg	1.50	U	5.30	UJ	2.60	U	2.60	U	0.80	UJ	1.10	UJ
Trichloroethylene	ug/kg	1.50	U	5.30	UJ	2.60	U	2.60	U	0.80	UJ	1.10	UJ
Vinyl chloride	ug/kg	5	U	17	UJ	8.40	U	8.40	U	2.60	UJ	3.70	UJ

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

SD016
PC-TF4-SD016
08/01/93

SD017
PC-TF4-SD017
08/01/93

SD018
PC-TF4-SD018
08/01/93

SD1
PC-LF6-SD1
08/17/93

SD2
PC-LF6-SD2
08/17/93

SD3
PC-LF6-SD3
08/17/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

2	ug/kg	2.70	U	9.30	UJ	4.50	U	4.50	UJ	0.23	B	2	UJ
1,2-Dichlorobenzene	ug/kg	2.30	U	8	UJ	3.90	U	3.90	UJ	1.20	UJ	1.70	UJ
1,2-Dimethylbenzene	ug/kg	3.50	U	12	UJ	5.80	U	5.80	UJ	1.80	UJ	2.60	UJ
1,3-Dichlorobenzene	ug/kg	6.20	U	21	UJ	10	U	10	UJ	3.20	UJ	4.60	UJ
1,3/1,4-Dimethylbenzene	ug/kg	3.50	U	12	UJ	5.80	U	5.80	UJ	1.80	U	2.60	UJ
1,4-Dichlorobenzene	ug/kg	2.70	U	9.30	UJ	4.50	U	4.50	UJ	1.40	UJ	2	UJ
Benzene	ug/kg	3.50	U	12	UJ	5.80	U	5.80	UJ	1.80	UJ	2.60	UJ
Chlorobenzene	ug/kg	3.50	U	12	UJ	5.80	U	5.80	UJ	1.80	UJ	2.60	UJ
Ethylbenzene	ug/kg	21	U	73	UJ	35	U	35	UJ	11	UJ	16	UJ
Methyl-t-Butyl Ether	ug/kg	2.90	U	10	UJ	4.80	U	4.80	UJ	1.50	UJ	2.10	UJ
Styrene	ug/kg	10	U	35	UJ	17	U	17	UJ	5.30	UJ	7.60	UJ
Toluene	ug/kg												
CLP 3/90	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
1,2,4-Trichlorobenzene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
1,2-Dichlorobenzene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
1,3-Dichlorobenzene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
1,4-Dichlorobenzene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2,2'-Oxybis(1-Chloropropane)	ug/kg	1500	U	4400	U	2200	U	2600	U	5600	U	1100	U
2,4,5-Trichlorophenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2,4,6-Trichlorophenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2,4-Dichlorophenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2,4-Dimethylphenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2,4-Dinitrophenol	ug/kg	1500	U	4400	U	2200	U	2600	U	5600	U	1100	U
2,6-Dinitrotoluene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2,6-Dinitrotoluene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2-Chloronaphthalene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2-Chlorophenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2-Methyl-4,6-Dinitrophenol	ug/kg	1500	U	4400	U	2200	U	2600	U	5600	U	1100	U
2-Methylnaphthalene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2-Methylphenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
2-Nitroaniline	ug/kg	1500	U	4400	U	2200	U	2600	U	5600	U	1100	U
2-Nitrophenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
3,3'-Dichlorobenzidine	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U
3-Nitroaniline	ug/kg	1500	U	4400	U	2200	U	2600	U	5600	U	1100	U
4-Bromophenyl phenyl ether	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470	U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD016		SD017		SD018		SD1		SD2		SD3	
	PC-TF4-SD016	08/01/93	PC-TF4-SD017	08/01/93	PC-TF4-SD018	08/01/93	PC-LF6-SD1	08/17/93	PC-LF6-SD2	08/17/93	PC-LF6-SD3	08/17/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloro-3-methyl phenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
4-Chloroaniline	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
4-Chlorophenyl phenyl ether	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
4-Methylphenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
4-Nitroaniline	ug/kg	1500	U	4400	U	2200	U	2600	U	5600	U	1100
4-Nitrophenol	ug/kg	1500	U	4400	U	2200	U	2600	U	5600	U	1100
Acenaphthene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Acenaphthylene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Anthracene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Benzo(a)anthracene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Benzo(a)pyrene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Benzo(b)fluoranthene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Benzo(ghi)perylene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Benzo(k)fluoranthene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Butyl benzyl phthalate	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Carbazole	ug/kg	630	U	1800	U	900	U	1100	U	510	U	55
Chrysene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Di-n-butyl phthalate	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Di-n-octyl phthalate	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Dibenzo(a,h)anthracene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Dibenzofuran	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Diethyl phthalate	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Dimethyl phthalate	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Fluoranthene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Fluorene	ug/kg	630	U	1800	U	900	U	1100	U	540	U	470
Hexachlorobenzene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Hexachlorobutadiene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Hexachlorocyclopentadiene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Hexachlorothiane	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Indeno(1,2,3-c,d)pyrene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Isophorone	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
N-Nitrosodi-N-Propylamine	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
N-Nitrosodiphenylamine	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Naphthalene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Nitrobenzene	ug/kg	630	U	1800	U	900	U	1100	U	2300	U	470
Pentachlorophenol	ug/kg	1500	U	4400	U	2200	U	2600	U	5600	U	1100

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SD016		SD017		SD018		SD1		SD2		SD3	
	PC-TF4-SD016	08/01/93	PC-TF4-SD017	08/01/93	PC-TF4-SD018	08/01/93	PC-LF6-SD1	08/17/93	PC-LF6-SD2	08/17/93	PC-LF6-SD3	08/17/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Phenanthrene	ug/kg	630	U	1800	U	900	U	1100	U	310	470	U
Phenol	ug/kg	630	U	1800	U	900	U	1100	U	2300	470	U
Pyrene	ug/kg	630	U	1800	U	900	U	1100	U	290	470	U
bis(2-Chloroethoxy)methane	ug/kg	630	U	1800	U	900	U	1100	U	2300	470	U
bis(2-Chloroethyl) ether	ug/kg	630	U	1800	U	900	U	1100	U	2300	470	U
bis(2-Ethylhexyl)phthalate	ug/kg	85	B	1800	U	900	U	1100	U	2300	470	U
METALS												
Aluminum	mg/kg	1940	UL	8370	UL	2660	UL	14.30	UL	32.80	-	UL
Antimony	mg/kg	8.70	UL	30.20	UL	14.40	UL	2.50	OB	11.90	6.40	UL
Arsenic	mg/kg	0.95	0	15.60	0	3.70	0	-	0	-	2.80	B
Barium	mg/kg	10.40	0	41.10	0	14.70	0	-	0	-	-	U
Beryllium	mg/kg	0.77	U	2.70	U	1.30	U	1.30	U	2.90	0.57	U
Cadmium	mg/kg	0.96	U	3.40	U	1.60	U	1.60	U	3.60	0.71	U
Calcium	mg/kg	13300	U	141000	U	57200	U	-	U	-	-	U
Chromium	mg/kg	4.80	U	32.20	U	12.30	U	4.90	L	15.90	7.60	L
Chromium, Hexavalent	mg/l	-	U	-	U	-	U	0.01	U	0.01	0.01	U
Cobalt	mg/kg	1.70	U	6	U	2.90	U	-	0	-	-	U
Copper	mg/kg	2.90	U	10.10	U	4.80	U	6.20	0	16.40	11.80	U
Iron	mg/kg	2250	U	10700	U	3310	U	-	0	-	-	U
Lead	mg/kg	2.20	B	7.30	B	1.60	B	5.30	K	177	19.10	J
Magnesium	mg/kg	1160	U	8060	U	5440	U	-	U	-	-	U
Manganese	mg/kg	22.30	U	171	U	55.50	U	-	U	-	-	U
Mercury	mg/kg	0.19	U	0.67	U	0.32	U	0.32	U	0.73	0.14	U
Nickel	mg/kg	6.70	U	23.50	U	11.20	U	11.10	UL	25.50	7.90	L
Potassium	mg/kg	439	U	1960	U	729	U	-	U	-	-	U
Selenium	mg/kg	0.58	U	3.30	U	1.20	U	0.95	UL	2.30	0.43	UL
Silver	mg/kg	0.77	U	2.70	U	1.30	U	1.30	U	2.90	0.57	U
Sodium	mg/kg	63.90	U	207	U	81.50	U	-	U	-	-	U
Thallium	mg/kg	0.58	U	2	U	0.96	U	0.95	UL	2.20	0.43	UL
Vanadium	mg/kg	6	U	37.60	U	13.40	U	-	U	-	-	U
Zinc	mg/kg	7.60	B	40.90	B	14.10	B	20.70	B	199	80.70	B
TPH	mg/kg	83.60	U	1060	U	246	U	93.40	U	994	175	U
Total Petroleum Hydrocarbons	mg/kg											

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SD4
SAMPLE ID: PC-LF6-SD4
COLLECTION DATE: 08/17/93

UNITS:	RESULT	QUAL
8010		
1,1,1,2-Tetrachloroethane	ug/kg	1.40 U
1,1,1-Trichloroethane	ug/kg	0.72 B
1,1,2,2-Tetrachloroethane	ug/kg	0.91 U
1,1,2-Trichloroethane	ug/kg	1.30 U
1,1-Dichloroethane	ug/kg	1.10 U
1,1-Dichloroethylene	ug/kg	1.30 U
1,2,3-Trichloropropane	ug/kg	1.40 U
1,2-Dibromoethane	ug/kg	2 U
1,2-Dichlorobenzene	ug/kg	2.10 U
1,2-Dichloroethane	ug/kg	0.98 U
1,2-Dichloropropane	ug/kg	0.98 U
1,2-trans-Dichloroethylene	ug/kg	1.70 U
1,3-Dichlorobenzene	ug/kg	1.70 U
1,3-cis-Dichloropropylene	ug/kg	1.40 U
1,3-trans-Dichloropropylene	ug/kg	1.30 U
1,4-Dichlorobenzene	ug/kg	2.10 U
2-Chloroethylvinyl ether	ug/kg	1.70 U
2-Chlorotoluene	ug/kg	1.50 U
4-Chlorotoluene	ug/kg	1.70 U
Bromobenzene	ug/kg	1.10 U
Bromochloromethane	ug/kg	1.40 U
Bromodichloromethane	ug/kg	1.50 U
Bromoform	ug/kg	1.40 U
Carbon Tetrachloride	ug/kg	0.98 U
Chlorobenzene	ug/kg	1.40 U
Chloroethane	ug/kg	3.90 U
Chloroform	ug/kg	0.61 B
Dibromochloromethane	ug/kg	1.20 U
Dibromomethane	ug/kg	1.40 U
Methyl bromide	ug/kg	4.20 U
Methyl chloride	ug/kg	3.80 U
Methylene chloride	ug/kg	1.50 B
Tetrachloroethylene	ug/kg	1.20 U
Trichloroethylene	ug/kg	1.20 U
Vinyl chloride	ug/kg	3.90 U

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SD4
SAMPLE ID: PC-LF6-SD4
COLLECTION DATE: 08/17/93

UNITS: RESULT QUAL

8020				
1,2-Dichlorobenzene	ug/kg	2.10	UJ	
1,2-Dimethylbenzene	ug/kg	1.80	UJ	
1,3-Dichlorobenzene	ug/kg	2.70	UJ	
1,3/1,4-Dimethylbenzene	ug/kg	4.80	UJ	
1,4-Dichlorobenzene	ug/kg	2.70	UJ	
Benzene	ug/kg	2.10	UJ	
Chlorobenzene	ug/kg	2.70	UJ	
Ethylbenzene	ug/kg	2.70	UJ	
Methyl-t-Butyl Ether	ug/kg	17	UJ	
Styrene	ug/kg	2.30	UJ	
Toluene	ug/kg	8	UJ	
CLP 3/90				
1,2,4-Trichlorobenzene	ug/kg	500	U	
1,2-Dichlorobenzene	ug/kg	500	U	
1,3-Dichlorobenzene	ug/kg	500	U	
1,4-Dichlorobenzene	ug/kg	500	U	
2,2'-Oxybis(1-Chloropropane)	ug/kg	500	U	
2,4,5-Trichlorophenol	ug/kg	1200	U	
2,4,6-Trichlorophenol	ug/kg	500	U	
2,4-Dichlorophenol	ug/kg	500	U	
2,4-Dimethylphenol	ug/kg	500	U	
2,4-Dinitrophenol	ug/kg	1200	U	
2,4-Dinitrotoluene	ug/kg	500	U	
2,6-Dinitrotoluene	ug/kg	500	U	
2-Chloronaphthalene	ug/kg	500	U	
2-Chlorophenol	ug/kg	500	U	
2-Methyl-4,6-Dinitrophenol	ug/kg	1200	U	
2-Methylnaphthalene	ug/kg	500	U	
2-Methylphenol	ug/kg	500	U	
2-Nitroaniline	ug/kg	1200	U	
2-Nitrophenol	ug/kg	500	U	
3,3'-Dichlorobenzidine	ug/kg	500	U	
3-Nitroaniline	ug/kg	1200	U	
4-Bromophenyl phenyl ether	ug/kg	500	U	

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	SD4	
SAMPLE ID:	PC-LF6-SD4	
COLLECTION DATE:	08/17/93	
UNITS:	RESULT	QUAL
4-Chloro-3-methyl phenol	ug/kg	500
4-Chloroaniline	ug/kg	500
4-Chlorophenyl phenyl ether	ug/kg	500
4-Methylphenol	ug/kg	500
4-Nitroaniline	ug/kg	1200
4-Nitrophenol	ug/kg	1200
Acenaphthene	ug/kg	500
Acenaphthylene	ug/kg	500
Anthracene	ug/kg	460
Benzo(a)anthracene	ug/kg	450
Benzo(a)pyrene	ug/kg	320
Benzo(b)fluoranthene	ug/kg	690
Benzo(ghi)perylene	ug/kg	61
Benzo(k)fluoranthene	ug/kg	690
Butyl benzyl phthalate	ug/kg	66
Carbazole	ug/kg	88
Chrysene	ug/kg	430
Di-n-butyl phthalate	ug/kg	64
Di-n-octyl phthalate	ug/kg	500
Dibenzo(a,h)anthracene	ug/kg	500
Dibenzofuran	ug/kg	500
Diethyl phthalate	ug/kg	500
Dimethyl phthalate	ug/kg	500
Fluoranthene	ug/kg	650
Fluorene	ug/kg	500
Hexachlorobenzene	ug/kg	500
Hexachlorobutadiene	ug/kg	500
Hexachlorocyclopentadiene	ug/kg	500
Hexachloroethane	ug/kg	500
Indeno(1,2,3-c,d)pyrene	ug/kg	120
Isophorone	ug/kg	500
N-Nitrosodi-N-Propylamine	ug/kg	500
N-Nitrosodiphenylamine	ug/kg	500
Naphthalene	ug/kg	500
Nitrobenzene	ug/kg	500
Pentachlorophenol	ug/kg	1200

Appendix L - Sediment Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SD4
SAMPLE ID: PC-LF6-SD4
COLLECTION DATE: 08/17/93

UNITS: RESULT QUAL

Phenanthrene	ug/kg	460	
Phenol	ug/kg	500	U
Pyrene	ug/kg	420	
bis(2-Chloroethoxy)methane	ug/kg	500	U
bis(2-Chloroethyl) ether	ug/kg	500	U
bis(2-Ethylhexyl)phthalate	ug/kg	500	U
METALS			
Aluminum	mg/kg	-	UL
Antimony	mg/kg	2	B
Arsenic	mg/kg	-	
Barium	mg/kg	0.61	U
Beryllium	mg/kg	0.76	U
Cadmium	mg/kg	-	
Calcium	mg/kg	5	L
Chromium	mg/kg	0.01	U
Chromium, Hexavalent	mg/l	-	
Cobalt	mg/kg	13.80	
Copper	mg/kg	-	
Iron	mg/kg	62.60	J
Lead	mg/kg	-	
Magnesium	mg/kg	-	
Manganese	mg/kg	0.15	U
Mercury	mg/kg	5.30	UL
Nickel	mg/kg	-	
Potassium	mg/kg	0.97	L
Selenium	mg/kg	0.61	U
Silver	mg/kg	-	
Sodium	mg/kg	0.46	UL
Thallium	mg/kg	-	
Vanadium	mg/kg	67.40	B
Zinc	mg/kg	-	
TPH			
Total Petroleum Hydrocarbons	mg/kg	450	

Appendix L - Surface Water Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SW001		SW002		SW003		SW004		SW005		SW006		
	PC-TF4-SW001		PC-TF4-SW002		PC-TF4-SW003		PC-TF4-SW004		PC-TF4-SW005		PC-TF4-SW006		
	07/28/93	07/28/93	07/28/93	07/28/93	07/28/93	07/28/93	07/28/93	07/28/93	07/30/93	07/30/93	07/30/93	07/30/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
8010													
1,1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,1-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.16	B	0.35	U	0.35	U
1,1,1,2,2-Tetrachloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,1,2-Trichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.06	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	ug/l	0.13	U	0.35	U	0.35	U	0.78	J	0.18	U	0.20	U
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U	0.07	J	0.50	U	0.50	U
Methylene chloride	ug/l	0.29	B	0.32	B	0.17	B	1	J	0.18	B	0.33	B
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.05	U	0.30	U	0.30	U
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.06	J	0.30	U	1.20	U
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Appendix L - Surface Water Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SW001		SW002		SW003		SW004		SW005		SW006	
	PC-TF4-SW001	07/28/93	PC-TF4-SW002	07/28/93	PC-TF4-SW003	07/28/93	PC-TF4-SW004	07/28/93	PC-TF4-SW005	07/30/93	PC-TF4-SW006	07/30/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	1	B	0.15	U	0.15	U	0.15	U	0.15	U	0.16	U
1,2-Dimethylbenzene	0.17		0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3/1,4-Dimethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.17	B	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
Benzene	0.35	U	0.35	U	0.35	U	0.14	B	0.35	U	0.35	U
Chlorobenzene	0.09		0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Ethylbenzene	0.11		0.15		0.20	U	0.16		0.20	U	0.20	U
Methyl-t-Butyl Ether	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	0.19	J	0.14	J	0.25	U	0.25	U	0.25	U	0.25	U
Toluene	0.16	B	0.11	B	0.33	B	0.18	B	0.25	U	0.25	U
LCBNA												
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	5	U	5	U	5	U	5	U	5	U	5	U
4-Bromophenyl phenyl ether	20	U	20	U	20	U	20	U	20	U	20	U
4-Chloro-3-methyl phenol	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloroaniline	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Surface Water Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SW001		SW002		SW003		SW004		SW005		SW006	
	PC-TF4-SW001		PC-TF4-SW002		PC-TF4-SW003		PC-TF4-SW004		PC-TF4-SW005		PC-TF4-SW006	
	07/28/93	07/28/93	07/28/93	07/28/93	07/28/93	07/28/93	07/28/93	07/28/93	07/30/93	07/30/93	07/30/93	07/30/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Methylphenol	5	U	5	U	5	U	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
Acenaphthene	5	U	5	U	5	U	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	5	U	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-butyl phthalate	5	U	5	U	1	U	0.60	U	5	U	5	U
Di-n-octyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Dibenz(a,h)anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U	5	U	5	U	5	U
Diethyl phthalate	5	U	0.80	U	2	U	0.80	U	5	U	5	U
Dimethyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Fluorene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U	5	U	5	U	5	U
Nitrobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
Phenanthrene	5	U	5	U	5	U	5	U	5	U	5	U
Phenol	5	U	0.90	U	3	U	2	U	5	U	5	U
Pyrene	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Surface Water Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		SW001		SW002		SW003		SW004		SW005		SW006	
SAMPLE ID:		PC-TF4-SW001		PC-TF4-SW002		PC-TF4-SW003		PC-TF4-SW004		PC-TF4-SW005		PC-TF4-SW006	
COLLECTION DATE:		07/28/93		07/28/93		07/28/93		07/28/93		07/30/93		07/30/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
bis(2-Chloroethyl) ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	10		0.60		0.80		3		0.90		1	B
METALS													
Antimony	ug/l	35	U	56.60	B	35	U	35	U	35	U	35	U
Antimony, Dissolved	ug/l	45	U	45	U	45	U	45	U	45	U	45	U
Arsenic	ug/l	4	U	4	U	10.10		4	U	4	U	6.30	0
Arsenic, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Beryllium	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Beryllium, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Cadmium	ug/l	3	U	3	U	3	U	3	U	3	U	3	U
Cadmium, Dissolved	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Chromium	ug/l	8	U	8	U	59.50		8	U	8	U	8	U
Chromium, Dissolved	ug/l	10	U	10	U	10	U	10	U	10	U	10	U
Copper	ug/l	4.60	OB	5	OB	25.70		4	U	4	U	4	U
Copper, Dissolved	ug/l	15	U	15	U	15	U	15	U	15	U	15	U
Lead	ug/l	2	U	2	U	4.20		2	U	2	U	2	UL
Lead, Dissolved	ug/l	2	U	2	U	2	U	2	U	2	U	2	U
Mercury	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	ug/l	18	U	18	U	21.90	0	18	U	18	U	18	U
Nickel, Dissolved	ug/l	35	U	35	U	35	U	35	U	35	U	35	U
Selenium	ug/l	3	U	3	UL	3	UL	3	U	3	U	3	U
Selenium, Dissolved	ug/l	3	UL	3	U	3	U	3	U	3	U	3	U
Silver	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	ug/l	3	U	3	U	3	U	3	U	3	UL	3	UL
Thallium, Dissolved	ug/l	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Zinc	ug/l	4	U	8.60	0	50		17	0	4	U	4	U
Zinc, Dissolved	ug/l	12.80	0	7.40	0	8.70	0	11.40	0	5.90	0	7.20	0
TPH													
Total Petroleum Hydrocarbons	mg/l	0.25	U	0.25	U	0.40		0.70		0.25	U	0.25	U

Appendix L - Surface Water Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SW106 SW007 SW008
SAMPLE ID: PC-TF4-SW106 PC-TF4-SW007 PC-TF4-SW008
COLLECTION DATE: 07/30/93 07/30/93 07/30/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL

8010	1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U
	1,1,1-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U
	1,1,2,2-Tetrachloroethane	ug/l	0.40	U	0.40	U	0.40	U
	1,1,2-Trichloroethane	ug/l	0.25	U	0.25	U	0.25	U
	1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U
	1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U
	1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U
	1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U
	1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U
	1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U
	1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U
	1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30	U
	1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U
	1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U
	1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U
	1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U
	2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U
	2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U
	4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U
	Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U
	Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U
	Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U
	Bromoform	ug/l	0.50	U	0.50	U	0.50	U
	Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U
	Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U
	Chloroethane	ug/l	0.50	U	0.50	U	0.50	U
	Chloroform	ug/l	0.28	U	0.29	B	0.49	U
	Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U
	Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U
	Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U
	Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U
	Methylene chloride	ug/l	0.37	B	0.15	B	0.34	B
	Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30	U
	Trichloroethylene	ug/l	1.20	U	0.30	U	0.10	U
	Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U

Appendix L - Surface Water Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SW106 SW007 SW008
SAMPLE ID: PC-TF4-SW106 PC-TF4-SW007 PC-TF4-SW008
COLLECTION DATE: 07/30/93 07/30/93 07/30/93

UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/l	1	J	0.15	U	0.15	U
1,2-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U
1,2-Dimethylbenzene	ug/l	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	ug/l	0.50	U	0.50	U	0.50	U
1,3/1,4-Dimethylbenzene	ug/l	0.15	U	0.15	U	0.15	U
1,4-Dichlorobenzene	ug/l	0.35	U	0.35	U	0.35	U
Benzene	ug/l	0.25	U	0.25	U	0.25	U
Chlorobenzene	ug/l	0.20	U	0.20	U	0.20	U
Ethylbenzene	ug/l	5	U	5	U	5	U
Methyl-t-Butyl Ether	ug/l	0.25	U	0.25	U	0.25	U
Styrene	ug/l	0.25	U	0.25	U	0.25	U
Toluene	ug/l						
LCBNA	ug/l	5	U	5	U	5	U
1,2,4-Trichlorobenzene	ug/l	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	ug/l	20	U	20	U	20	U
2,4,5-Trichlorophenol	ug/l	5	U	5	U	5	U
2,4,6-Trichlorophenol	ug/l	5	U	5	U	5	U
2,4-Dichlorophenol	ug/l	5	U	5	U	5	U
2,4-Dimethylphenol	ug/l	20	U	20	U	20	U
2,4-Dinitrophenol	ug/l	5	U	5	U	5	U
2,4-Dinitrotoluene	ug/l	5	U	5	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	5	U	5	U
2-Chloronaphthalene	ug/l	5	U	5	U	5	U
2-Chlorophenol	ug/l	20	U	20	U	20	U
2-Methyl-4,6-Dinitrophenol	ug/l	5	U	5	U	5	U
2-Methylnaphthalene	ug/l	5	U	5	U	5	U
2-Methylphenol	ug/l	20	U	20	U	20	U
2-Nitroaniline	ug/l	5	U	5	U	5	U
2-Nitrophenol	ug/l	5	U	5	U	5	U
3,3'-Dichlorobenzidine	ug/l	20	U	20	U	20	U
3-Nitroaniline	ug/l	5	U	5	U	5	U
4-Bromophenyl phenyl ether	ug/l	5	U	5	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	5	U	5	U
4-Chloroaniline	ug/l	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	ug/l	5	U	5	U	5	U

Appendix L - Surface Water Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SW106 SW007 SW008
SAMPLE ID: PC-TF4-SW106 PC-TF4-SW007 PC-TF4-SW008
COLLECTION DATE: 07/30/93 07/30/93 07/30/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Methylphenol ug/l	5	U	5	U	5	U
4-Nitroaniline ug/l	20	U	20	U	20	U
4-Nitrophenol ug/l	20	U	20	U	20	U
Acenaphthene ug/l	5	U	5	U	5	U
Acenaphthylene ug/l	5	U	5	U	5	U
Anthracene ug/l	5	U	5	U	5	U
Benzo(a)anthracene ug/l	5	U	5	U	5	U
Benzo(a)pyrene ug/l	5	U	5	U	5	U
Benzo(b)fluoranthene ug/l	5	U	5	U	5	U
Benzo(ghi)perylene ug/l	5	U	5	U	5	U
Benzo(k)fluoranthene ug/l	5	U	5	U	5	U
Butyl benzyl phthalate ug/l	5	U	5	U	5	U
Chrysene ug/l	5	U	5	U	5	U
Di-n-butyl phthalate ug/l	5	U	5	U	5	U
Di-n-octyl phthalate ug/l	5	U	5	U	5	U
Dibenzo(a,h)anthracene ug/l	5	U	5	U	5	U
Dibenzofuran ug/l	5	U	5	U	5	U
Diethyl phthalate ug/l	5	U	0.50	U	5	U
Dimethyl phthalate ug/l	5	U	5	U	5	U
Fluoranthene ug/l	5	U	5	U	5	U
Fluorene ug/l	5	U	5	U	5	U
Hexachlorobenzene ug/l	5	U	5	U	5	U
Hexachlorobutadiene ug/l	5	U	5	U	5	U
Hexachlorocyclopentadiene ug/l	5	U	5	U	5	U
Hexachloroethane ug/l	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene ug/l	5	U	5	U	5	U
Isophorone ug/l	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine ug/l	5	U	5	U	5	U
N-Nitrosodiphenylamine ug/l	5	U	5	U	5	U
Naphthalene ug/l	5	U	5	U	5	U
Nitrobenzene ug/l	5	U	5	U	5	U
Pentachlorophenol ug/l	20	U	20	U	20	U
Phenanthrene ug/l	5	U	5	U	5	U
Phenol ug/l	5	U	5	U	0.50	U
Pyrene ug/l	5	U	5	U	5	U
bis(2-Chloroethoxy)methane ug/l	5	U	5	U	5	U

Appendix L - Surface Water Analytical Results from Remedial Investigation
Alpena CRTC, Alpena, MI

LOCATOR: SW106 SW007 SW008
SAMPLE ID: PC-TF4-SW106 PC-TF4-SW007 PC-TF4-SW008
COLLECTION DATE: 07/30/93 07/30/93 07/30/93

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL

bis(2-Chloroethyl) ether	ug/l	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	5	U	2	B	5	U
METALS							
Antimony	ug/l	35	U	56.50	B	35	U
Antimony, Dissolved	ug/l	45	U	45	U	45	UL
Arsenic	ug/l	5.30	0	4	U	4	U
Arsenic, Dissolved	ug/l	4.40	0	4	U	4	U
Beryllium	ug/l	1	U	1	U	1	U
Beryllium, Dissolved	ug/l	4	U	4	U	4	U
Cadmium	ug/l	3	U	3	U	3	U
Cadmium, Dissolved	ug/l	5	U	5	U	5	U
Chromium	ug/l	8	U	8	U	8	U
Chromium, Dissolved	ug/l	10	U	10	U	10	U
Copper	ug/l	4	U	4	U	5.40	OB
Copper, Dissolved	ug/l	15	U	15	U	15	U
Lead	ug/l	2	U	2	U	2	U
Lead, Dissolved	ug/l	2	U	2	U	2	U
Mercury	ug/l	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	ug/l	0.20	U	0.20	U	0.20	U
Nickel	ug/l	18	U	18	U	18	U
Nickel, Dissolved	ug/l	35	U	35	U	35	U
Selenium	ug/l	3	U	3	U	3	U
Selenium, Dissolved	ug/l	3	U	3	U	3	U
Silver	ug/l	4	U	4	U	4	U
Silver, Dissolved	ug/l	4	U	4	U	4	U
Thallium	ug/l	3	U	3	U	3	U
Thallium, Dissolved	ug/l	3	UL	3	UL	3	UL
Zinc	ug/l	4	U	4	U	4	U
Zinc, Dissolved	ug/l	6.70	0	7.30	0	5	0
TPH							
Total Petroleum Hydrocarbons	mg/l	0.25	U	0.25	U	0.25	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: MW1 MW2 MW3 MW4 MW6 MW11
SAMPLE ID: PC-P1-MW1-GW4 PC-P1-MW2-GW4 PC-P1-MW3-GW4 PC-P1-MW4-GW4 PC-P1-MW6-GW4 PC-P1-MW11-GW4
COLLECTION DATE: 09/15/93 09/09/93 09/10/93 09/10/93 09/15/93 09/14/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,2-Tetrachloroethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1-Trichloroethane	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2,2-Tetrachloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,2-Trichloroethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloropropane	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-cis-Dichloropropylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Chloroethylvinyl ether	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
4-Chlorotoluene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Bromobenzene	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Tetrachloride	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Dibromochloromethane	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromomethane	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Methyl bromide	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	0.42	B	0.36	U	0.42	U	0.37	B	0.40	B	0.34	B
Tetrachloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Trichloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW1		MW2		MW3		MW4		MW6		MW11	
	PC-P1-MW1-GW4		PC-P1-MW2-GW4		PC-P1-MW3-GW4		PC-P1-MW4-GW4		PC-P1-MW6-GW4		PC-P1-MW11-GW4	
	09/15/93	09/15/93	09/09/93	09/09/93	09/10/93	09/10/93	09/10/93	09/10/93	09/15/93	09/15/93	09/14/93	09/14/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	ug/l	0.15	U	B	0.30	B	0.75	B	0.19	B	8.50	J
1,2-Dimethylbenzene	ug/l	0.20	U	U	0.20	U	0.20	U	0.20	U	5.80	J
1,3-Dichlorobenzene	ug/l	0.74	J	B	0.13	B	0.21	B	0.23	B	2.50	U
1,3-Dimethylbenzene	ug/l	2.80			-		-		-		61	
1,3/1,4-Dimethylbenzene	ug/l	-		U	0.50	U	0.50	U	0.50	U	-	U
1,4-Dichlorobenzene	ug/l	0.15	U	B	0.47	B	0.35	B	0.68	B	25	U
1,4-Dimethylbenzene	ug/l	2.80			-		-		-		61	U
Benzene	ug/l	13		U	0.35	U	0.09	U	0.35	U	10	U
Chlorobenzene	ug/l	0.25	U	U	0.25	U	0.25	U	0.25	U	0.68	U
Ethylbenzene	ug/l	5.90	U	U	0.20	U	0.20	U	0.12	U	56	U
Methyl-t-Butyl Ether	ug/l	5	U	U	5	U	5	U	5	U	2.10	J
Styrene	ug/l	0.25	U	U	0.25	U	0.25	U	0.25	U	8.50	J
Toluene	ug/l	0.14	U	U	0.25	U	0.25	U	0.11	B	0.29	J
LCBNA												
1,2,4-Trichlorobenzene	ug/l	5	U	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	ug/l	5	U	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	ug/l	20	U	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	ug/l	5	U	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	ug/l	5	U	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	ug/l	0.60	J	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	ug/l	20	U	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	ug/l	5	U	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	ug/l	5	U	U	5	U	5	U	5	U	5	U
2-Chlorophenol	ug/l	5	U	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	ug/l	20	U	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	ug/l	5	U	U	5	U	5	U	5	U	5	U
2-Methylphenol	ug/l	5	U	U	5	U	5	U	5	U	5	U
2-Nitroaniline	ug/l	20	U	U	20	U	20	U	20	U	20	U
2-Nitrophenol	ug/l	5	U	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	ug/l	5	U	U	5	U	5	U	5	U	5	U
3-Nitroaniline	ug/l	20	U	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	ug/l	5	U	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTIC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW1		MW2		MW3		MW4		MW6		MW11	
	PC-P1-MW1-GW4		PC-P1-MW2-GW4		PC-P1-MW3-GW4		PC-P1-MW4-GW4		PC-P1-MW6-GW4		PC-P1-MW11-GW4	
	09/15/93	09/15/93	09/09/93	09/09/93	09/10/93	09/10/93	09/10/93	09/10/93	09/15/93	09/15/93	09/14/93	09/14/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	5	U	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
Acenaphthene	5	U	5	U	5	U	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	5	U	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-butyl phthalate	5	U	0.70	B	5	U	5	U	5	U	0.90	B
Di-n-octyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U	5	U	5	U	5	U
Diethyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Dimethyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Fluorene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U	5	U	12	U	5	U
Nitrobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
Phenanthrene	5	U	5	U	5	U	5	U	5	U	5	U
Phenol	5	U	5	U	5	U	5	U	5	U	0.50	B

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW1		MW2		MW3		MW4		MW6		MW11	
SAMPLE ID:		PC-P1-MW1-GW4		PC-P1-MW2-GW4		PC-P1-MW3-GW4		PC-P1-MW4-GW4		PC-P1-MW6-GW4		PC-P1-MW11-GW4	
COLLECTION DATE:		09/15/93		09/09/93		09/10/93		09/10/93		09/15/93		09/14/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	3	B	5	B	8	B	2	B	2	B	12	B
METALS													
Antimony	ug/l	45	U	35	U	46.20	OB	38.60	OB	45	UL	45	U
Antimony, Dissolved	ug/l	35	U	35	U	35	U	35	U	39.20	(B)	39.20	OB
Arsenic	ug/l	7.70	(K)	4	U	4	U	10.90	J	28.60	L	12.60	U
Arsenic, Dissolved	ug/l	4.10	OB	4	U	4	U	4	U	4	U	4	U
Beryllium	ug/l	4	U	1	U	1	U	3.10	0	4	UL	4	U
Beryllium, Dissolved	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	ug/l	5	U	3	U	3	U	5.70	U	5	UL	5	U
Cadmium, Dissolved	ug/l	3	U	3	U	3	U	3	U	3	U	3	U
Chromium	ug/l	38	U	9.90	U	8	U	96.20	U	119	L	62.20	U
Chromium, Dissolved	ug/l	8	U	8	U	8	U	8	U	8	U	8	U
Copper	ug/l	88.90	U	5.10	(B)	5.70	OB	67.90	U	84.40	L	31.10	U
Copper, Dissolved	ug/l	4	U	6.30	0	4	U	5.10	0	4	U	4	U
Lead	ug/l	34.30	U	2	U	2	U	31.20	U	60.30	L	20.50	UL
Lead, Dissolved	ug/l	2	UL	2	UL	2	UL	2	UL	2	U	2	UL
Mercury	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.37	L	0.20	U
Mercury, Dissolved	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	ug/l	35	U	18	U	18	U	69	U	93.50	L	50.90	U
Nickel, Dissolved	ug/l	18	U	18	U	18	U	18	U	18	U	18	U
Selenium	ug/l	3	UL	5.60	B	6	B	20	B	3	UL	3	UL
Selenium, Dissolved	ug/l	R	3	U	3	U	3	UL	R	R	U	4	U
Silver	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	ug/l	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Thallium, Dissolved	ug/l	3	UJ	3	UL	3	UL	3	UL	3	UJ	3	UJ
Zinc	ug/l	64.50	U	12.90	(B)	12.60	OB	131	(B)	147	L	99.50	U
Zinc, Dissolved	ug/l	4	U	25	B	10.30	(B)	15.90	(B)	4	U	4	U
TPH	mg/l	2	B	0.50	B	0.40	B	0.60	B	0.70	B	0.25	U
Total Petroleum Hydrocarbons	mg/l												

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW12	MW13	MW14	MW3	MW1	MW2
SAMPLE ID:	PC-P1-MW12-GW4	PC-P1-MW13-GW4	PC-P1-MW14-GW4	PC-P1-MW3-GW4	PC-P1-MW1-GW4	PC-P1-MW2-GW4
COLLECTION DATE:	09/14/93	09/14/93	09/15/93	09/15/93	08/10/93	08/15/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010						
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35
1,1,1-Trichloroethane	ug/l	0.35	U	0.35	U	0.35
1,1,2,2-Tetrachloroethane	ug/l	0.40	U	0.40	U	0.40
1,1,2-Trichloroethane	ug/l	0.25	U	0.25	U	0.25
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30
1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35
Bromobenzene	ug/l	0.85	U	0.85	U	0.85
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40
Bromoform	ug/l	0.50	U	0.50	U	0.50
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35
Chloroethane	ug/l	0.50	U	0.50	U	0.50
Chloroform	ug/l	0.35	U	0.35	U	0.35
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30
Dibromomethane	ug/l	0.40	U	0.40	U	0.40
Methyl bromide	ug/l	0.45	U	0.45	U	0.45
Methyl chloride	ug/l	0.50	U	0.50	U	0.50
Methylene chloride	ug/l	0.15	B	0.17	U	0.17
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW12		MW13		MW14		MW3		MW1		MW2	
	PC-P1-MW12-GW4		PC-P1-MW13-GW4		PC-P1-MW14-GW4		PC-P1-MW3-GW4		PC-MP2-MW1-GW4		PC-MP2-MW2-GW4	
	09/14/93	09/14/93	09/14/93	09/14/93	09/15/93	09/15/93	09/15/93	09/15/93	08/10/93	08/10/93	08/15/93	08/15/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	0.15	U	0.15	U	0.15	U	0.15	U	0.29	B	0.52	B
1,2-Dimethylbenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	0.20	U	0.14	B	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dimethylbenzene	-	U	-	U	0.19	U	0.09	U	-	U	-	U
1,3/1,4-Dimethylbenzene	0.50	U	0.50	U	-	U	-	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.28	B	0.66	B	0.15	U	0.15	U	0.13	B	0.15	U
1,4-Dimethylbenzene	-	U	-	U	0.19	U	0.09	U	-	U	-	U
Benzene	0.35	U	0.35	U	0.11	U	0.10	U	0.35	U	0.35	U
Chlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Ethylbenzene	0.20	U	0.20	U	0.22	B	0.20	U	0.20	U	0.20	U
Methyl-t-Butyl Ether	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Toluene	0.15	B	0.22	B	0.20	U	0.21	U	0.22	B	0.09	B
LCBNA												
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW12	MW13	MW14	MW3	MW1	MW2
SAMPLE ID:		PC-P1-MW12-GW4	PC-P1-MW13-GW4	PC-P1-MW14-GW4	PC-P1-MW13-GW4	PC-P1-MW14-GW4	PC-P1-MW13-GW4
COLLECTION DATE:		09/14/93	09/14/93	09/15/93	09/15/93	08/10/93	08/15/93
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	ug/l	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	ug/l	5	U	5	U	5	U
4-Methylphenol	ug/l	5	U	5	U	5	U
4-Nitroaniline	ug/l	20	U	20	U	20	U
4-Nitrophenol	ug/l	20	U	20	U	20	U
Acenaphthene	ug/l	5	U	5	U	5	U
Acenaphthylene	ug/l	5	U	5	U	5	U
Anthracene	ug/l	5	U	5	U	5	U
Benzo(a)anthracene	ug/l	5	U	5	U	5	U
Benzo(a)pyrene	ug/l	5	U	5	U	5	U
Benzo(b)fluoranthene	ug/l	5	U	5	U	5	U
Benzo(ghi)perylene	ug/l	5	U	5	U	5	U
Benzo(k)fluoranthene	ug/l	5	U	5	U	5	U
Butyl benzyl phthalate	ug/l	5	U	5	U	5	U
Chrysene	ug/l	5	U	5	U	5	U
Di-n-butyl phthalate	ug/l	5	U	0.80	B	5	U
Di-n-octyl phthalate	ug/l	5	U	5	U	5	U
Dibenzo(a,h)anthracene	ug/l	5	U	5	U	5	U
Dibenzofuran	ug/l	5	U	5	U	5	U
Diethyl phthalate	ug/l	0.60	B	0.60	B	5	U
Dimethyl phthalate	ug/l	5	U	5	U	5	U
Fluoranthene	ug/l	5	U	5	U	5	U
Fluorene	ug/l	5	U	5	U	5	U
Hexachlorobenzene	ug/l	5	U	5	U	5	U
Hexachlorobutadiene	ug/l	5	U	5	U	5	U
Hexachlorocyclopentadiene	ug/l	5	U	5	U	5	U
Hexachloroethane	ug/l	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	ug/l	5	U	5	U	5	U
Isophorone	ug/l	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	ug/l	5	U	5	U	5	U
N-Nitrosodiphenylamine	ug/l	5	U	5	U	5	U
Naphthalene	ug/l	5	U	5	U	5	U
Nitrobenzene	ug/l	5	U	5	U	5	U
Pentachlorophenol	ug/l	20	U	20	U	20	U
Phenanthrene	ug/l	5	U	5	U	5	U
Phenol	ug/l	5	U	2	B	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW12		MW13		MW14		MW3		MW1		MW2	
	PC-P1-MW12-GW4		PC-P1-MW13-GW4		PC-P1-MW14-GW4		PC-PF7-MW3-GW4		PC-MP2-MW1-GW4		PC-MP2-MW2-GW4	
	09/14/93	09/14/93	09/14/93	09/14/93	09/15/93	09/15/93	09/15/93	09/15/93	08/10/93	08/15/93	08/15/93	08/15/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	2	B	2	B	4	B	11	B	1	B	1	B
METALS												
Antimony	45	U	45	U	45	U	45	U	35	U	35	U
Antimony, Dissolved	35	U	35	U	35	U	35	U	35	U	42.30	OB
Arsenic	9.50	(K)	10.90	K	4	U	4	U	14.70	U	4	U
Arsenic, Dissolved	4	U	4	U	4	U	4.10	OB	7.20	(B)	14.70	B
Beryllium	4	U	4	U	4	U	4	U	1	U	1	U
Beryllium, Dissolved	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5	U	5	U	5	U	5	U	3	U	3	U
Cadmium, Dissolved	3	U	3	U	3	U	3	U	3	U	3	U
Chromium	50.10	U	43.90	U	10	U	10	U	8	U	8	U
Chromium, Dissolved	8	U	8	U	8	U	8	U	8	U	8	U
Copper	15	U	35.60	U	15	U	15	U	27.80	U	4.50	OB
Copper, Dissolved	4	U	4	U	4	U	4	U	4	U	4	U
Lead	12.70	U	19.30	U	2	U	2	U	4.50	U	2	U
Lead, Dissolved	2	UL	2	UL	2	UL	2	UL	2	U	4.10	B
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	0.20	U	0.20	U	0.20	U	0.20	U	0.20	UL	0.20	U
Nickel	38.30	0	35	U	35	U	35	U	18	U	18	U
Nickel, Dissolved	18	U	18	U	18	U	18	U	18	U	18	U
Selenium	3	UL	3	UL	3	UL	3.40	OB	3	U	3	U
Selenium, Dissolved	R	4.90	(B)	R	R	3	U	3	U	U	4	U
Silver	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	3	UL	3	UL	3	UL	3	UL	3	U	3	UL
Thallium, Dissolved	3	UJ	3	UJ	3	UJ	3	UJ	R	3	UL	U
Zinc	89.20	U	67.10	U	7.50	0	11.70	0	43.50	0	100	U
Zinc, Dissolved	4	U	4	U	4	U	6	0	19.10	0	4	U
TPH	0.25	U	0.80	B	0.25	U	0.80	B	2.50	B	5.60	B
Total Petroleum Hydrocarbons	0.25	U	0.80	B	0.25	U	0.80	B	2.50	B	5.60	B

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW3		MW4		MW9		MW5		MW6		MW1	
SAMPLE ID:		PC-MP2-MW3-GW4		PC-MP2-MW4-GW4		PC-MP2-MW9-GW4		PC-MP2-MW5-GW4		PC-MP2-MW6-GW4		PC-FF7-MW1-GW4	
COLLECTION DATE:		08/16/93		08/16/93		08/16/93		09/16/93		09/09/93		09/09/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.08	B
1,1,1-Trichloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2,2-Tetrachloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,2-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
4-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
2-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	ug/l	0.35	U	0.35	U	0.18	U	0.35	U	0.35	U	0.35	U
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	ug/l	1	U	1	U	0.05	U	0.40	U	0.40	U	0.32	B
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.09	U
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.12	U
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW3 PC-MP2-MW3-GW4 08/16/93		MW4 PC-MP2-MW4-GW4 08/16/93		MW9 PC-MP2-MW9-GW4 08/16/93		MW5 PC-MP2-MW5-GW4 09/16/93		MW6 PC-MP2-MW6-GW4 09/09/93		MW1 PC-MP2-MW1-GW4 09/09/93	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:												
ug/l												
1,2-Dichlorobenzene	0.26	B	0.38	B	0.15	U	R	3.40	B	0.15	U	U
1,2-Dimethylbenzene	0.20	U	0.20	U	0.20	U	R	0.20	U	0.20	U	U
1,3-Dichlorobenzene	0.08	B	0.20	U	0.20	U	R	0.15	B	4.60	B	B
1,3-Dimethylbenzene	-		-		-		-		0.06	0.50	-	-
1,3/1,4-Dimethylbenzene	0.50	U	0.50	U	0.50	U	R	-	0.15	0.15	U	U
1,4-Dichlorobenzene	0.15	U	0.36	B	0.15	U	R	0.52	B	0.35	U	U
1,4-Dimethylbenzene	-		-		-		-		0.06	0.25	-	-
Benzene	0.35	U	0.35	U	0.35	U	R	0.35	U	0.25	U	U
Chlorobenzene	0.25	U	0.25	U	0.25	U	R	0.25	U	0.20	U	U
Ethylbenzene	0.20	U	0.20	U	0.20	U	R	0.20	U	5	U	U
Methyl-t-Butyl Ether	5	U	5	U	5	U	R	5	U	0.25	U	U
Styrene	0.25	U	0.25	U	0.25	U	R	0.25	U	0.25	U	U
Toluene	0.17	B	0.21	B	0.26	B	R	0.15	U	0.25	U	U
LCBNA												
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW3		MW4		MW9		MW5		MW6		MW1	
	PC-MP2-MW3-GW4		PC-MP2-MW4-GW4		PC-MP2-MW9-GW4		PC-MP2-MW5-GW4		PC-MP2-MW6-GW4		PC-FF7-MW1-GW4	
	08/16/93	08/16/93	08/16/93	08/16/93	08/16/93	08/16/93	09/16/93	09/16/93	09/09/93	09/09/93	09/09/93	09/09/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	ug/l	5	U		5		5		5		5	
4-Chlorophenyl phenyl ether	ug/l	5	U		5		5		5		5	
4-Methylphenol	ug/l	5	U		5		5		5		5	
4-Nitroaniline	ug/l	20	U		20		20		20		20	
4-Nitrophenol	ug/l	20	U		20		20		20		20	
Acenaphthene	ug/l	5	U		5		5		5		5	
Acenaphthylene	ug/l	5	U		5		5		5		5	
Anthracene	ug/l	5	U		5		5		5		5	
Benzo(a)anthracene	ug/l	5	U		5		5		5		5	
Benzo(a)pyrene	ug/l	5	U		5		5		5		5	
Benzo(b)fluoranthene	ug/l	5	U		5		5		5		5	
Benzo(ghi)perylene	ug/l	5	U		5		5		5		5	
Benzo(k)fluoranthene	ug/l	5	U		5		5		5		5	
Butyl benzyl phthalate	ug/l	5	U		5		5		5		5	
Chrysene	ug/l	5	U		5		5		5		5	
Di-n-butyl phthalate	ug/l	0.50			5		5		5		1	
Di-n-octyl phthalate	ug/l	5	U		5		5		5		5	
Dibenzo(a,h)anthracene	ug/l	5	U		5		5		5		5	
Dibenzofuran	ug/l	5	U		5		5		5		5	
Diethyl phthalate	ug/l	2	J		3		5		5		5	
Dimethyl phthalate	ug/l	5	U		0.60		5		5		5	
Fluoranthene	ug/l	5	U		5		5		5		5	
Fluorene	ug/l	5	U		5		5		5		5	
Hexachlorobenzene	ug/l	5	U		5		5		5		5	
Hexachlorobutadiene	ug/l	5	U		5		5		5		5	
Hexachlorocyclopentadiene	ug/l	5	U		5		5		5		5	
Hexachloroethane	ug/l	5	U		5		5		5		5	
Indeno(1,2,3-c,d)pyrene	ug/l	5	U		5		5		5		5	
Isophorone	ug/l	5	U		5		5		5		5	
N-Nitrosodi-N-Propylamine	ug/l	5	U		5		5		5		5	
N-Nitrosodiphenylamine	ug/l	5	U		5		5		5		5	
Naphthalene	ug/l	5	U		5		5		5		5	
Nitrobenzene	ug/l	5	U		5		5		5		5	
Pentachlorophenol	ug/l	20	U		20		20		20		20	
Phenanthrene	ug/l	5	U		5		5		5		5	
Phenol	ug/l	0.70	B		5		5		0.90		0.60	

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW3		MW4		MW9		MW5		MW6		MW1	
	PC-MP2-MW3-GW4		PC-MP2-MW4-GW4		PC-MP2-MW9-GW4		PC-MP2-MW5-GW4		PC-MP2-MW6-GW4		PC-MP2-MW1-GW4	
	08/16/93	08/16/93	08/16/93	08/16/93	08/16/93	08/16/93	09/09/93	09/09/93	09/09/93	09/09/93	09/09/93	09/09/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate ug/l	5	B	1	B	7	B	3	B	2	B	4	B
METALS												
Antimony ug/l	44.30	OB	35	U	35	U	35	U	35	U	35	U
Arsenic ug/l	35	U	35	U	35	U	46.10	OB	35	U	42.50	OB
Arsenic, Dissolved ug/l	4	U	4	U	4	U	4	U	4	(L)	4	U
Beryllium ug/l	4	U	4	U	6.10	OB	4	U	4	U	4	U
Beryllium, Dissolved ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium, Dissolved ug/l	3	U	3	U	3	U	3	U	3	U	3	U
Chromium ug/l	8	U	8	U	8	U	8	U	8	U	8	U
Chromium, Dissolved ug/l	8	U	8	U	8	U	8	U	8	U	8	U
Copper ug/l	4	U	4	U	4.50	OB	4	U	4	U	4	U
Copper, Dissolved ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Lead ug/l	2	U	2	U	2	U	2	UL	2	U	2	U
Lead, Dissolved ug/l	2	U	2	U	2	U	2	UL	2	UL	2.30	(L)
Mercury ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel ug/l	18	U	18	U	18	U	18	U	18	U	18	U
Nickel, Dissolved ug/l	18	U	18	U	18	U	18	U	18	U	18	U
Selenium ug/l	3	U	3	U	3	U	3	U	3	U	3.30	OB
Selenium, Dissolved ug/l	3	U	3	U	3	U	3	U	3	U	3	UL
Silver ug/l	4	U	4	U	4	U	4	U	5.40	U	4	U
Silver, Dissolved ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Thallium ug/l	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Thallium, Dissolved ug/l	3	UL	3	UL	3	UL	R	3	UL	3	UL	UL
Zinc ug/l	4	U	193	U	245	U	254	OB	9.70	OB	4	U
Zinc, Dissolved ug/l	4	U	4	U	10.40	U	5.10	OB	5.60	(B)	15.30	(B)
TPH mg/l	0.60	B	0.40	B	0.40	B	1.10	B	2.30	B	0.25	U
Total Petroleum Hydrocarbons												

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: MW7 PC-MP2-MW7-GW4 MW1 PC-CG3-MW1-GW4 MW2 PC-CG3-MW2-GW4 MW3 PC-CG3-MW3-GW4 MW4 PC-CG3-MW4-GW4 MW5 PC-CG3-MW5-GW4
SAMPLE ID: 09/09/93 08/15/93 08/25/93 08/25/93 08/25/93 08/25/93 08/26/93
COLLECTION DATE:

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

8010	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1-Trichloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2,2-Tetrachloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,2-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	ug/l	0.42	B	0.08	U	0.13	B	0.27	B	0.43	B	0.31	B	0.30	U
Tetrachloroethylene	ug/l	6.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Trichloroethylene	ug/l	0.36	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW7		MW1		MW2		MW3		MW4		MW5	
	PC-MP2-MW7-GW4		PC-CG3-MW1-GW4		PC-CG3-MW2-GW4		PC-CG3-MW3-GW4		PC-CG3-MW4-GW4		PC-CG3-MW5-GW4	
	09/09/93	RESULT	08/15/93	RESULT	08/25/93	RESULT	08/25/93	RESULT	08/25/93	RESULT	08/26/93	RESULT
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	0.17	B	0.15	U	1.80	B	0.31	B	0.25	B	0.15	U
1,2-Dimethylbenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	0.20	U	0.14	B	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dimethylbenzene	-		-		-		-		-		-	
1,3/1,4-Dimethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.30	B	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
1,4-Dimethylbenzene	-		-		-		-		-		-	
Benzene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Ethylbenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Methyl-t-Butyl Ether	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Toluene	0.18		0.19	B	0.11	B	0.08	B	0.15	B	0.25	U
LCBNA												
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: MW7 PC-MP2-MW7-GW4 MW1 MW2 MW3 MW4 MW5
SAMPLE ID: PC-CG3-MW1-GW4 PC-CG3-MW2-GW4 PC-CG3-MW3-GW4 PC-CG3-MW4-GW4 PC-CG3-MW5-GW4
COLLECTION DATE: 09/09/93 08/15/93 08/25/93 08/25/93 08/26/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U	20	U	20	U
Acenaphthene	5	U	5	U	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U	5	U	5	U
Di-n-butyl phthalate	1	B	5	U	0.80	U	0.80	U	5	U
Di-n-octyl phthalate	5	U	5	U	5	U	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U	5	U	5	U
Diethyl phthalate	1	U	7	U	5	U	5	U	5	U
Dimethyl phthalate	5	U	1	U	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U	5	U	5	U
Fluorene	5	U	5	U	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U	5	U	5	U
Nitrobenzene	5	U	5	U	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U	20	U	20	U
Phenanthrene	5	U	5	U	5	U	5	U	5	U
Phenol	3	U	5	U	1	B	0.50	B	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW7		MW1		MW2		MW3		MW4		MW5	
	PC-MP2-MW7-GW4		PC-CG3-MW1-GW4		PC-CG3-MW2-GW4		PC-CG3-MW3-GW4		PC-CG3-MW4-GW4		PC-CG3-MW5-GW4	
	09/09/93	08/15/93	08/15/93	08/25/93	08/25/93	08/25/93	08/25/93	08/25/93	08/25/93	08/26/93	08/26/93	08/26/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	3	B	0.90	B	3	B	2	B	2	B	2	B
METALS												
Antimony	35	U	35	U	35	U	35	U	35	U	43.10	OB
Antimony, Dissolved	35	U	35	U	35	U	35	U	35	U	35	U
Arsenic	4	U	4	U	4	U	4	U	4	U	4	U
Arsenic, Dissolved	4	U	4	U	4	U	4	U	4	U	4	U
Beryllium	1	U	1	U	1	U	1	U	1	U	1	U
Beryllium, Dissolved	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	3	U	3	U	3	U	3	U	3	U	3	U
Cadmium, Dissolved	3	U	3	U	3	U	3	U	3	U	3	U
Chromium	8	U	8	U	8	U	8	U	8	U	8	U
Chromium, Dissolved	8	U	8	U	8	U	8	U	8	U	8	U
Copper	4	U	4	U	4	U	5.30	OB	4	U	4	U
Copper, Dissolved	4	U	4	U	4	U	4	U	4	U	4	U
Lead	2	UL	2	U	2	U	2	U	2	U	2	U
Lead, Dissolved	2	UL	2	U	2	U	2	U	2	UL	2	UL
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	18	U	18	U	18	U	18	U	18	U	18	U
Nickel, Dissolved	18	U	18	U	18	U	18	U	18	U	18	U
Selenium	3.20	OB	3	U	3	U	3	U	4.40	0	3	U
Selenium, Dissolved	3	UL	3	U	3	U	3	U	3	U	3	U
Silver	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Thallium, Dissolved	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Zinc	23.80	(B)	4	U	4	U	18.50	OB	6.80	OB	8.80	OB
Zinc, Dissolved	4.10	(B)	4	U	12.70	OB	5	OB	23.80	B	20.90	B
TPH	0.25	U	1.80	B	0.90	B	0.25	U	0.25	U	1	B
Total Petroleum Hydrocarbons	0.25	U	1.80	B	0.90	B	0.25	U	0.25	U	1	B

LOCATOR:	MW9	MW6	MW7	MW1	MW8	MW2
SAMPLE ID:	PC-CG3-MW9-GW4	PC-CG3-MW6-GW4	PC-CG3-MW7-GW4	PC-TF4-MW1-GW4	PC-TF4-MW8-GW4	PC-TF4-MW2-GW4
COLLECTION DATE:	08/26/93	09/10/93	09/13/93	08/17/93	08/17/93	08/11/93

L-148

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW9		MW6		MW7		MW1		MW8		MW2	
SAMPLE ID:		PC-CG3-MW9-GW4		PC-CG3-MW6-GW4		PC-CG3-MW7-GW4		PC-TF4-MW1-GW4		PC-TF4-MW8-GW4		PC-TF4-MW2-GW4	
COLLECTION DATE:		08/26/93		09/10/93		09/13/93		08/17/93		08/17/93		08/11/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/l	0.15	U	0.41	B	0.67	B	R	R	1	B		
1,2-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	R	R	0.20	U		
1,2-Dimethylbenzene	ug/l	0.20	U	0.29	B	0.20	U	R	R	0.20	U		
1,3-Dichlorobenzene	ug/l	-		-		-		R	-		0.03		
1,3-Dimethylbenzene	ug/l	0.50	U	0.50	U	0.50	U	-	-	R	-		
1,3/1,4-Dimethylbenzene	ug/l	0.15	U	0.15	U	0.15	U	R	R	0.15	U		
1,4-Dichlorobenzene	ug/l	-		-		-		R	-		0.03		
1,4-Dimethylbenzene	ug/l	0.35	U	0.51		0.35	U	R	R	0.35	U		
Benzene	ug/l	0.25	U	0.25	U	0.25	U	R	R	0.25	U		
Chlorobenzene	ug/l	0.20	U	1.40	U	0.20	U	R	R	0.20	U		
Ethylbenzene	ug/l	5	U	5	U	5	U	R	R	5	U		
Methyl-t-Butyl Ether	ug/l	0.25	U	0.25	U	0.11	B	R	R	0.25	U		
Styrene	ug/l	0.25	U	0.25	U	0.10	B	R	R	0.21	B		
Toluene	ug/l												
LCBNA	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4,5-Trichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4,6-Trichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW9	MW6	MW7	MW1	MW8	MW2
SAMPLE ID:	PC-CG3-MW9-GW4	PC-CG3-MW6-GW4	PC-CG3-MW7-GW4	PC-TF4-MW1-GW4	PC-TF4-MW8-GW4	PC-TF4-MW2-GW4
COLLECTION DATE:	08/26/93	09/10/93	09/13/93	08/17/93	08/17/93	08/11/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U
Acenaphthene	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U
Di-n-butyl phthalate	5	U	5	U	5	U
Di-n-octyl phthalate	5	U	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U
Diethyl phthalate	5	U	5	U	5	U
Dimethyl phthalate	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U
Fluorene	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U
Nitrobenzene	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U
Phenanthrene	5	U	5	U	5	U
Phenol	0.80	B	0.80	0.80	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW9		MW6		MW7		MW1		MW8		MW2	
	PC-CG3-MW9-GW4		PC-CG3-MW6-GW4		PC-CG3-MW7-GW4		PC-TF4-MW1-GW4		PC-TF4-MW8-GW4		PC-TF4-MW2-GW4	
	08/26/93	08/26/93	09/10/93	09/10/93	09/13/93	09/13/93	08/17/93	08/17/93	08/17/93	08/17/93	08/11/93	08/11/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate ug/l	2	B	7	B	4	B	5	U	4	U	3	B
METALS												
Antimony ug/l	35	U	42.50	OB	45	U	35	U	35	U	35	U
Antimony, Dissolved ug/l	35	U	35	U	35	U	53.80	OB	69.20	B	35	U
Arsenic ug/l	4	U	9.90	0	4	U	15.60	L	23	L	4.80	0
Arsenic, Dissolved ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Beryllium ug/l	1	U	1	U	4	U	1.40	0	1.50	0	1	U
Beryllium, Dissolved ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium ug/l	3	U	4.60	0	5	U	3	U	3	U	3	U
Cadmium, Dissolved ug/l	3	U	3	U	3	U	3	U	3	U	3	U
Chromium ug/l	8	U	21.10	U	10	U	61.10	U	67.20	U	16.50	U
Chromium, Dissolved ug/l	8	U	8	U	8	U	8	U	8	U	8	U
Copper ug/l	4	U	25.40	U	15	U	79.90	U	91.20	U	18.60	OB
Copper, Dissolved ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Lead ug/l	2	U	12.90	U	2	U	56.60	U	62.70	U	16.40	U
Lead, Dissolved ug/l	2	UL	2	UL	2	U	2	U	9.40	B	2	UL
Mercury ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel ug/l	18	U	18.60	0	35	U	56	U	59.60	U	18	U
Nickel, Dissolved ug/l	18	U	18	U	18	U	18	U	18	U	18	U
Selenium ug/l	3	U	17.20	B	5.30	B	3	U	3	U	3	UL
Selenium, Dissolved ug/l	3	UL	3	UL	R	3	U	3	U	3	U	U
Silver ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Thallium ug/l	3	U	3	UL	3	UL	3	UL	3	UL	3	U
Thallium, Dissolved ug/l	3	UL	3	UL	3	UJ	3	UL	3	UL	3	UL
Zinc ug/l	73.20	B	55.90	U	10.90	0	137	U	163	OB	34.60	U
Zinc, Dissolved ug/l	21.80	B	5.90	(B)	4	U	4	U	7.10	OB	4	U
TPH mg/l	0.40	B	0.80	B	0.25	U	1.50	B	0.80	B	0.25	U
Total Petroleum Hydrocarbons												

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

MW3
PC-TF4-MW3-GW4
08/11/93

MW4
PC-TF4-MW4-GW4
08/12/93

MW1
PC-SF5-MW1-GW4
08/15/93

MW2
PC-SF5-MW2-GW4
08/24/93

MW2
PC-SF5-MW3-GW4
08/24/93

MW4
PC-SF5-MW4-GW4
08/24/93

UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1-Trichloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2,2-Tetrachloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,2-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromomethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	ug/l	0.06	U	0.06	U	0.03	U	0.11	B	0.31	B
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW3		MW4		MW1		MW2		MW2		MW4	
SAMPLE ID:		PC-TF4-MW3-GW4		PC-TF4-MW4-GW4		PC-SF5-MW1-GW4		PC-SF5-MW2-GW4		PC-SF5-MW3-GW4		PC-SF5-MW4-GW4	
COLLECTION DATE:		08/11/93		08/12/93		08/15/93		08/24/93		08/24/93		08/24/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	1,2-Dichlorobenzene	ug/l		1.10	B	4.70		2.20	B	0.15	U	0.28	B
	1,2-Dimethylbenzene	ug/l	U	0.20	U	0.88		0.20	U	0.20	U	0.20	U
	1,3-Dichlorobenzene	ug/l	U	0.07	B	2.90	J	0.20	U	0.20	U	0.20	U
	1,3-Dimethylbenzene	ug/l	-	0.07		8		-		-		-	
	1,3/1,4-Dimethylbenzene	ug/l	0.50	U		-		0.50	U	0.50	U	0.50	U
	1,4-Dichlorobenzene	ug/l	0.15	U	0.07	3.50		0.15	U	0.15	U	0.15	U
	1,4-Dimethylbenzene	ug/l	-	0.07		8		-		-		-	
	Benzene	ug/l	0.35	U	0.35	52		0.35	U	0.35	U	0.35	U
	Chlorobenzene	ug/l	0.25	U	0.25	0.41	J	0.25	U	0.25	U	0.25	U
	Ethylbenzene	ug/l	0.20	U	0.10	0.68		0.09	B	0.20	U	0.10	B
	Methyl-t-Butyl Ether	ug/l	5	U	5	5	U	5	U	5	U	5	U
	Styrene	ug/l	0.25	U	0.25	1.50	J	0.25	U	0.25	U	0.25	U
	Toluene	ug/l	0.29	U	0.11	0.11	B	0.14	B	0.11	B	0.23	B
LCNBA													
	1,2,4-Trichlorobenzene	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2,2'-Oxybis(1-Chloropropane)	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2,4,5-Trichlorophenol	ug/l	20	U	20	60	U	20	U	20	U	20	U
	2,4,6-Trichlorophenol	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2,4-Dichlorophenol	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2,4-Dimethylphenol	ug/l	5	U	5	4	J	5	U	5	U	5	U
	2,4-Dinitrophenol	ug/l	20	U	20	60	U	20	U	20	U	20	U
	2,4-Dinitrotoluene	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2,6-Dinitrotoluene	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2-Chloronaphthalene	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2-Chlorophenol	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2-Methyl-4,6-Dinitrophenol	ug/l	20	U	20	60	U	20	U	20	U	20	U
	2-Methylnaphthalene	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2-Methylphenol	ug/l	5	U	5	15	U	5	U	5	U	5	U
	2-Nitroaniline	ug/l	20	U	20	60	U	20	U	20	U	20	U
	2-Nitrophenol	ug/l	5	U	5	15	U	5	U	5	U	5	U
	3,3'-Dichlorobenzidine	ug/l	5	U	5	15	U	5	U	5	U	5	U
	3-Nitroaniline	ug/l	20	U	20	60	U	20	U	20	U	20	U
	4-Bromophenyl phenyl ether	ug/l	5	U	5	15	U	5	U	5	U	5	U
	4-Chloro-3-methyl phenol	ug/l	5	U	5	15	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW3		MW4		MW1		MW2		MW2		MW4	
	PC-TF4-MW3-GW4	08/11/93	PC-TF4-MW4-GW4	08/12/93	PC-SF5-MW1-GW4	08/15/93	PC-SF5-MW2-GW4	08/24/93	PC-SF5-MW2-GW4	08/24/93	PC-SF5-MW4-GW4	08/24/93
UNITS:												
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	15	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	15	U	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	15	U	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	60	U	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	60	U	20	U	20	U	20	U
Acenaphthene	5	U	5	U	15	U	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	15	U	5	U	5	U	5	U
Anthracene	5	U	5	U	15	U	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	15	U	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	15	U	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	15	U	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	15	U	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	15	U	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	15	U	5	U	5	U	5	U
Chrysene	5	U	5	U	15	U	5	U	5	U	5	U
Di-n-butyl phthalate	5	U	5	U	15	U	0.70	U	0.70	B	0.70	U
Di-n-octyl phthalate	5	U	5	U	15	U	5	U	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	15	U	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	15	U	5	U	5	U	5	U
Diethyl phthalate	5	U	5	U	15	U	5	U	5	U	5	U
Dimethyl phthalate	5	U	5	U	15	U	5	U	5	U	5	U
Fluoranthene	5	U	5	U	15	U	5	U	5	U	5	U
Fluorene	5	U	5	U	15	U	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	15	U	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	15	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	15	U	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	15	U	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	15	U	5	U	5	U	5	U
Isophorone	5	U	5	U	15	U	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	15	U	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	15	U	5	U	5	U	5	U
Naphthalene	5	U	5	U	15	U	5	U	5	U	5	U
Nitrobenzene	5	U	5	U	15	U	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	60	U	20	U	20	U	20	U
Phenanthrene	5	U	5	U	15	U	5	U	5	U	5	U
Phenol	5	U	5	U	2	U	0.70	B	0.70	B	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	MW3		MW4		MW1		MW2		MW2		MW4	
		PC-TF4-MW3-GW4		PC-TF4-MW4-GW4		PC-SF5-MW1-GW4		PC-SF5-MW2-GW4		PC-SF5-MW3-GW4		PC-SF5-MW4-GW4	
		08/11/93	08/11/93	08/12/93	08/12/93	08/15/93	08/15/93	08/24/93	08/24/93	08/24/93	08/24/93	08/24/93	08/24/93
Pyrene	ug/l	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
bis(2-Chloroethoxy)methane	ug/l	5	U	5	U	15	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	ug/l	5	U	5	U	15	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	2	B	0.90	B	3	B	1	B	11	B	2	B
METALS													
Antimony	ug/l	84.60	B	35	U	35	U	35	U	35	U	35	U
Antimony, Dissolved	ug/l	35	U	36.20	OB	49.90	OB	35	U	35	U	35	U
Arsenic	ug/l	19	U	4	U	20.50	U	4	U	4	U	4	U
Arsenic, Dissolved	ug/l	4	U	4	U	22.10	B	4	U	4	U	4	U
Beryllium	ug/l	2.90	B	1	U	1	U	1	U	1	U	1	U
Beryllium, Dissolved	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	ug/l	8.10	U	3	U	4.70	OB	3	U	3	U	3	U
Cadmium, Dissolved	ug/l	3	U	3	U	3	U	3	U	3	U	3	U
Chromium	ug/l	88	U	23.30	U	8	U	8	U	8	U	8	U
Chromium, Dissolved	ug/l	8	U	8	U	8	U	8	OB	8	U	8	U
Copper	ug/l	120	U	22.50	OB	4	U	5.90	OB	1	U	4	U
Copper, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Lead	ug/l	50.60	U	17.60	L	6.50	U	2	UL	2	U	2	U
Lead, Dissolved	ug/l	2	U	3.10	U	2	U	2	U	2	UL	2	UL
Mercury	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	ug/l	90.50	U	18	U	18	U	18	U	18	U	18	U
Nickel, Dissolved	ug/l	18	U	18	U	18	U	18	U	18	U	18	U
Selenium	ug/l	3	U	3	UL	3	U	3	U	3	U	3	U
Selenium, Dissolved	ug/l	3	UL	3	U	3	U	3	UL	3	U	3	UL
Silver	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	ug/l	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Thallium, Dissolved	ug/l	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Zinc	ug/l	246	U	61.30	U	14.80	OB	33.60	B	74.50	B	13	OB
Zinc, Dissolved	ug/l	4	U	4	U	4.20	OB	27.90	B	83.50	B	65.30	B
TPH													
Total Petroleum Hydrocarbons	mg/l	1.10	B	2.10	B	5.80	B	1.70	B	3.80	B	0.25	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: MW5 MW6 MW7 MW8 MW9 MW1
SAMPLE ID: PC-SF5-MW5-GW4 PC-SF5-MW6-GW4 PC-SF5-MW7-GW4 PC-SF5-MW8-GW4 PC-SF5-MW9-GW4 PC-LF6-MW1-GW4
COLLECTION DATE: 09/12/93 09/12/93 09/12/93 09/12/93 09/13/93 08/12/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,2-Tetrachloroethane	0.08	B	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1-Trichloroethane	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2,2-Tetrachloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,2-Trichloroethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	0.25	U	0.25	U	0.25	U	0.44	U	0.25	U
1,2-Dichloropropane	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-cis-Dichloropropylene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-trans-Dichloropropylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,4-Dichlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
2-Chloroethylvinyl ether	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Chlorotoluene	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
4-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromobenzene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Bromochloromethane	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromodichloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromoform	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Carbon Tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chlorobenzene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Dibromochloromethane	0.17	B	0.35	U	0.35	U	0.35	U	0.35	U
Dibromomethane	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Methyl bromide	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Methyl chloride	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methylene chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Tetrachloroethylene	0.74	B	0.45	J	0.39	B	0.28	B	0.30	B
Trichloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	0.30	U	0.30	U	0.21	U	0.63	U	0.30	U
	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW5		MW6		MW7		MW8		MW9		MW1	
SAMPLE ID:		PC-SF5-MW5-GW4		PC-SF5-MW6-GW4		PC-SF5-MW7-GW4		PC-SF5-MW8-GW4		PC-SF5-MW9-GW4		PC-LF6-MW1-GW4	
COLLECTION DATE:		09/12/93		09/12/93		09/12/93		09/13/93		09/13/93		08/12/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020													
1,2-Dichlorobenzene	ug/l	0.15	U	0.15	U	0.15	U	0.43	B	0.11	B	0.86	B
1,2-Dimethylbenzene	ug/l	0.20	U	0.20	U	0.20	U	0.13	J	0.20	U	0.20	U
1,3-Dichlorobenzene	ug/l	0.54	U	0.20	U	0.20	U	0.15	B	0.20	U	0.20	B
1,3-Dimethylbenzene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
1,3/1,4-Dimethylbenzene	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	ug/l	0.15	U	0.15	U	0.15	U	0.38	B	0.15	U	0.19	B
1,4-Dimethylbenzene	ug/l	-	U	-	U	-	U	-	U	-	U	-	U
Benzene	ug/l	0.35	U	0.35	U	0.35	U	41	U	0.26	U	0.35	U
Chlorobenzene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Ethylbenzene	ug/l	0.20	U	0.20	U	0.20	U	0.49	J	0.20	U	0.20	U
Methyl-t-Butyl Ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	ug/l	0.25	U	0.25	U	0.25	U	0.67	J	0.25	U	0.25	U
Toluene	ug/l	0.25	U	0.24	U	0.25	U	0.39	B	0.18	B	0.16	B
LCBNA													
1,2,4-Trichlorobenzene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW5	MW6	MW7	MW8	MW9	MW1
SAMPLE ID:	PC-SF5-MW5-GW4	PC-SF5-MW6-GW4	PC-SF5-MW7-GW4	PC-SF5-MW8-GW4	PC-SF5-MW9-GW4	PC-LF6-MW1-GW4
COLLECTION DATE:	09/12/93	09/12/93	09/12/93	09/13/93	09/13/93	08/12/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U
Acenaphthene	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U
Di-n-butyl phthalate	5	U	5	U	0.50	U
Di-n-octyl phthalate	5	U	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U
Diethyl phthalate	5	U	0.50	U	5	U
Dimethyl phthalate	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U
Fluorene	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U
Nitrobenzene	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U
Phenanthrene	5	U	5	U	5	U
Phenol	5	U	5	U	0.50	B

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW5		MW6		MW7		MW8		MW9		MW1	
	PC-SF5-MW5-GW4		PC-SF5-MW6-GW4		PC-SF5-MW7-GW4		PC-SF5-MW8-GW4		PC-SF5-MW9-GW4		PC-LF6-MW1-GW4	
	09/12/93	09/12/93	09/12/93	09/12/93	09/12/93	09/12/93	09/13/93	09/13/93	09/13/93	09/13/93	08/12/93	08/12/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	4	B	5	B	3	B	2	B	3	B	2	B
METALS												
Antimony	38.50	OB	35	U	35	U	45	U	45	U	35	U
Antimony, Dissolved	35	U	35	U	35	UL	35	U	35	U	35	U
Arsenic	4	U	4.30	U	4	U	7	U	10.50	L	4	U
Arsenic, Dissolved	4	UL	4	U	4	UL	4.20	OB	4.50	OB	4	U
Beryllium	1	U	1	U	1	U	4	U	4	U	1	U
Beryllium, Dissolved	1	U	1	U	1	UL	1	U	1	U	1	U
Cadmium	3	U	3	U	3	U	5	U	5	U	3	U
Cadmium, Dissolved	3	U	3	U	3	UL	3	U	3	U	3	U
Chromium	8	U	9.80	U	8	U	10	U	81.70	L	8	U
Chromium, Dissolved	8	U	8	U	8	UL	8	U	8	U	8	U
Copper	4.40	OB	10.10	OB	4	U	15	U	73.30	L	4	U
Copper, Dissolved	4	U	4	U	4	UL	4	U	4	U	4	U
Lead	2	U	2	U	2	U	2	U	44.10	L	2	U
Lead, Dissolved	2	UL	2	U	2	UL	2	UL	2	UL	2	U
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	0.20	U	0.20	U	0.20	UL	0.20	U	0.20	U	0.20	U
Nickel	18	U	18	U	18	U	35	U	69.90	L	18	U
Nickel, Dissolved	18	U	18	U	18	UL	18	U	18	U	18	U
Selenium	9.50	B	3	UL	7.50	B	3	UL	3	UL	3	U
Selenium, Dissolved	3	U	3	UL	3	UL	R	7.30	3	UL	U	U
Silver	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	4	U	4	U	4	UL	4	U	4	U	4	U
Thallium	3	U	3	U	3	UL	3	UL	3	UL	3	UL
Thallium, Dissolved	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Zinc	7.10	OB	33.60	B	14.70	OB	33.10	OB	259	OB	4	U
Zinc, Dissolved	6.80	OB	9.40	OB	18.20	OB	61	OB	38.60	OB	4	U
TPH	0.30	B	1.10	B	1	B	0.25	U	0.25	U	1.60	B
Total Petroleum Hydrocarbons												

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW2		MW3		MW4		MW5		MW6		MW8	
SAMPLE ID:		PC-LF6-MW2-GW4		PC-LF6-MW3-GW4		PC-LF6-MW4-GW4		PC-LF6-MW5-GW4		PC-LF6-MW6-GW4		PC-LF6-MW8-GW4	
COLLECTION DATE:		08/11/93		08/26/93		09/12/93		09/12/93		09/12/93		09/08/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/l	0.35	U	0.35	U	0.35	U	0.35	UJ	0.35	U	0.35	U
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	UJ	0.35	U	0.35	U
1,1,1-Trichloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2,2-Tetrachloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,2-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	UJ	0.35	U	0.35	U
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	UJ	0.35	U	0.35	U
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	UJ	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.25	U	0.30	U
1,2-trans-Dichloroethylene	ug/l	0.20	U	0.20	U	0.20	U	0.20	UJ	0.20	U	0.20	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	UJ	0.20	U	0.20	U
1,3-eis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	UJ	0.30	U	0.30	U
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	UJ	0.20	U	0.20	U
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	UJ	0.35	U	0.35	U
Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	UJ	0.25	U	0.25	U
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Tetrachloride	ug/l	0.35	U	1.10	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	UJ	0.50	U	0.50	U
Chloroform	ug/l	0.35	U	0.14	U	0.35	U	0.35	UJ	0.35	U	0.35	U
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	UJ	0.40	U	0.40	U
Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U	0.45	UJ	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U	0.50	UJ	0.50	U	0.50	U
Methylene chloride	ug/l	0.03	U	0.17	U	0.34	B	0.35	B	0.21	U	0.42	B
Tetrachloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	UJ	0.30	U	0.30	U
Trichloroethylene	ug/l	0.30	U	1.70	U	0.30	U	0.30	UJ	0.30	U	0.30	U
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U	0.55	UJ	0.55	U	0.55	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW2		MW3		MW4		MW5		MW6		MW8	
SAMPLE ID:		PC-LF6-MW2-GW4		PC-LF6-MW3-GW4		PC-LF6-MW4-GW4		PC-LF6-MW5-GW4		PC-LF6-MW6-GW4		PC-LF6-MW8-GW4	
COLLECTION DATE:		08/11/93		08/26/93		09/12/93		09/12/93		09/12/93		09/08/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/l												
1,2-Dichlorobenzene	ug/l	0.58	B	0.15	U	0.15	U	0.15	B	0.15	U	1	B
1,2-Dimethylbenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.26	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.27	B
1,3-Dimethylbenzene	ug/l	-	U	-	U	-	U	-	U	-	U	1.70	U
1,3/1,4-Dimethylbenzene	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	-	B
1,4-Dichlorobenzene	ug/l	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.27	U
1,4-Dimethylbenzene	ug/l	-	U	-	U	-	U	-	U	-	U	1.70	U
Benzene	ug/l	0.07	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.17	U
Ethylbenzene	ug/l	0.16	U	0.20	U	0.20	U	0.74	U	0.20	U	4.70	U
Methyl-t-Butyl Ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Toluene	ug/l	0.15	B	0.25	U	0.25	U	0.25	U	0.25	U	0.24	U
LCBNA	ug/l												
1,2,4-Trichlorobenzene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW2	MW3	MW4	MW5	MW6	MW8
SAMPLE ID:	PC-LF6-MW2-GW4	PC-LF6-MW3-GW4	PC-LF6-MW4-GW4	PC-LF6-MW5-GW4	PC-LF6-MW6-GW4	PC-LF6-MW8-GW4
COLLECTION DATE:	08/11/93	08/26/93	09/12/93	09/12/93	09/12/93	09/08/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U
Acenaphthene	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U
Di-n-butyl phthalate	5	U	5	U	5	U
Di-n-octyl phthalate	5	U	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U
Diethyl phthalate	5	U	5	U	5	U
Dimethyl phthalate	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U
Fluorene	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U
Nitrobenzene	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U
Phenanthrene	5	U	5	U	5	U
Phenol	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW2 PC-LF6-MW2-GW4 08/11/93		MW3 PC-LF6-MW3-GW4 08/26/93		MW4 PC-LF6-MW4-GW4 09/12/93		MW5 PC-LF6-MW5-GW4 09/12/93		MW6 PC-LF6-MW6-GW4 09/12/93		MW8 PC-LF6-MW8-GW4 09/08/93	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	2	B	5	B	4	B	9	B	4	B	8	B
UNITS:	ug/l		ug/l		ug/l		ug/l		ug/l		ug/l	
METALS												
Antimony	48.40	OB	35	U	39.20	0	35	U	35.20	OB	35	U
Antimony, Dissolved	35	U	35	U	35	U	35	U	35	U	35	U
Arsenic	4	U	4	U	4	U	4	U	4	U	13.40	J
Arsenic, Dissolved	4	U	4	U	4	U	4	U	4	U	4	U
Beryllium	1	U	1	U	1	U	1	U	1	U	2.40	U
Beryllium, Dissolved	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	3	U	3	U	3	U	3	U	3	U	5.40	U
Cadmium, Dissolved	3	U	3	U	3	U	3	U	3	U	3	U
Chromium	8	U	8	U	8	U	8	U	8	U	75.90	U
Chromium, Dissolved	8	U	8	U	8	U	8	U	8	U	8	U
Copper	4	U	4.20	OB	8.20	OB	4.90	OB	5.20	OB	53.30	0
Copper, Dissolved	4	U	4	U	4	U	4	U	4	U	8.20	0
Lead	2	U	2.10	(L)	2	U	2	U	2	UL	38.20	UL
Lead, Dissolved	2	U	2	UL	2	UL	2	UL	2	UL	2	UL
Mercury	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	18	U	18	U	18	U	18	U	18	U	43.10	U
Nickel, Dissolved	18	U	18	U	18	U	18	U	18	U	18	U
Selenium	3	UL	3	U	3	U	3	U	3	U	77.10	U
Selenium, Dissolved	3	U	3	UL	3	U	3	U	3	U	3	U
Silver	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Thallium, Dissolved	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Zinc	6.90	OB	4.30	OB	20.40	B	11.60	OB	67.70	B	167	UL
Zinc, Dissolved	4	U	4	U	8.80	OB	10	OB	38.20	B	4	U
TPH	0.50	B	0.50	B	0.50	B	0.25	U	2.30	B	0.60	B
Total Petroleum Hydrocarbons	mg/l		mg/l		mg/l		mg/l		mg/l		mg/l	

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW9		MW10		MW1		MW2		MW3		MW4	
	PC-LF6-MW9-GW4	09/08/93	PC-LF6-MW10-GW4	09/16/93	PC-HN8-MW1-GW4	08/15/93	PC-HN8-MW2-GW4	09/12/93	PC-HN8-MW3-GW4	09/12/93	PC-HN8-MW4-GW4	09/12/93
UNITS:												
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,1,1,2-Tetrachloroethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1-Trichloroethane	0.35	U	0.30	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,2,2-Tetrachloroethane	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,2-Trichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1-Dichloroethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethylene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloropropane	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-trans-Dichloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-cis-Dichloropropylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Chloroethylvinyl ether	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
4-Chlorotoluene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Bromobenzene	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Tetrachloride	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Dibromochloromethane	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromomethane	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Methyl bromide	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	0.68	B	0.10	B	0.11	B	0.83	B	0.50	B	0.83	B
Tetrachloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	1.20	J	0.30	U
Trichloroethylene	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW9		MW10		MW1		MW2		MW3		MW4	
	PC-LF6-MW9-GW4		PC-LF6-MW10-GW4		PC-HN8-MW1-GW4		PC-HN8-MW2-GW4		PC-HN8-MW3-GW4		PC-HN8-MW4-GW4	
	09/08/93		09/16/93		08/15/93		09/12/93		09/12/93		09/12/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020												
1,2-Dichlorobenzene	2.40	B	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
1,2-Dimethylbenzene	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	0.19	B	0.50	U	0.53	B	0.20	U	0.20	U	0.20	U
1,3-Dimethylbenzene	-		-		-		-		-		-	
1,3/1,4-Dimethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.21	B	0.15	U	0.15	U	0.25	B	0.15	U	0.15	U
1,4-Dimethylbenzene	-		-		-		-		-		-	
Benzene	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Ethylbenzene	0.20	U	0.20	U	0.20	U	0.11	U	0.20	U	0.20	U
Methyl-t-Butyl Ether	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Toluene	0.25	U	0.25	U	0.24	U	0.24	B	0.25	U	0.20	U
LCBNA												
1,2,4-Trichlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: MW9 MW10 MW11 MW2 MW3 MW4
SAMPLE ID: PC-LF6-MW9-GW4 PC-LF6-MW10-GW4 PC-HN8-MW1-GW4 PC-HN8-MW2-GW4 PC-HN8-MW3-GW4 PC-HN8-MW4-GW4
COLLECTION DATE: 09/08/93 09/16/93 08/15/93 09/12/93 09/12/93 09/12/93

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	5	U	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U	20	U	20	U	20	U
Acenaphthene	5	U	5	U	5	U	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	5	U	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-butyl phthalate	1	J	5	U	5	U	5	U	5	U	5	U
Di-n-octyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	U	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U	5	U	5	U	5	U
Diethyl phthalate	1	U	5	U	5	U	5	U	5	U	5	U
Dimethyl phthalate	5	U	5	U	5	U	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U	5	U	5	U	5	U
Fluorene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U	5	U	5	U	5	U
Nitrobenzene	5	U	5	U	5	U	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U	20	U	20	U	20	U
Phenanthrene	5	U	5	U	5	U	5	U	5	U	5	U
Phenol	3	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW9		MW10		MW1		MW2		MW3		MW4	
	PC-LF6-MW9-GW4		PC-LF6-MW10-GW4		PC-HN8-MW1-GW4		PC-HN8-MW2-GW4		PC-HN8-MW3-GW4		PC-HN8-MW4-GW4	
	09/08/93		09/16/93		08/15/93		09/12/93		09/12/93		09/12/93	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	3	B	2	B	3	B	2	B	3	B	7	B
METALS												
Antimony	42.40	OB	45	U	52.30	OB	35	U	35	U	35	U
Antimony, Dissolved	35	U	35	U	46.10	OB	35	U	35	U	35	U
Arsenic	8.20	0	10.90	U	4	U	4	U	4	U	4	U
Arsenic, Dissolved	4	U	4.60	OB	4	U	4	U	4	U	4	U
Beryllium	1.80	U	4	U	1	U	1	U	1	U	1	U
Beryllium, Dissolved	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	5.50	U	5	U	3	U	3	U	3	U	3	U
Cadmium, Dissolved	3	U	3	U	3	U	3	U	3	U	3	U
Chromium	62	U	60.50	U	8	U	8	U	8	U	8	U
Chromium, Dissolved	8	U	8	U	8	U	8	U	8	U	8	U
Copper	44.40	U	57.80	U	4	U	4	U	4	U	4	U
Copper, Dissolved	8.90	U	4	U	4	U	4	U	4	U	4	U
Lead	23.90	U	127	U	2	U	2	U	2	U	2	U
Lead, Dissolved	2	UL	2	UL	4.80	B	2	UL	2	UL	2	UL
Mercury	0.20	U	0.36	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	46.80	U	37.10	U	18	U	18	U	18	U	18	U
Nickel, Dissolved	18	U	18	U	18	U	18	U	18	U	18	U
Selenium	24.50	B	3	UL	3	UL	3	U	3	U	3	U
Selenium, Dissolved	3	UL	3	(B)	3	U	3	UL	3	U	3	UL
Silver	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Thallium, Dissolved	3	UL	3	UJ	3	UL	3	UL	3	UL	3	UL
Zinc	123	(B)	258	0	4	U	9.20	OB	7.90	OB	15.30	OB
Zinc, Dissolved	4.70	(B)	4.80	0	4	U	15.90	OB	6.80	OB	6.20	OB
TPH	0.25	U	0.90	B	2.30	B	0.60	B	1	B	0.25	U
Total Petroleum Hydrocarbons												

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW9	MW5	MW2	MW1	MW2	MW3
SAMPLE ID:	PC-HN8-MW9-GW4	PC-HN8-MW5-GW4	PC-FF7-MW2-GW4	PC-RT9-MW1-GW4	PC-RT9-MW2-GW4	PC-RT9-MW3-GW4
COLLECTION DATE:	09/12/93	09/14/93	09/14/93	08/27/93	08/27/93	08/27/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010						
1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35
1,1,1-Trichloroethane	ug/l	0.35	U	0.35	U	0.07
1,1,2,2-Tetrachloroethane	ug/l	0.40	U	0.40	U	0.40
1,1,2-Trichloroethane	ug/l	0.25	U	0.25	U	0.25
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35
1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30
1,2-trans-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20
1,3-cis-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35
Bromobenzene	ug/l	0.85	U	0.85	U	0.85
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40
Bromoform	ug/l	0.50	U	0.50	U	0.50
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35
Chloroethane	ug/l	0.50	U	0.50	U	0.50
Chloroform	ug/l	0.35	U	0.35	U	0.35
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30
Dibromomethane	ug/l	0.40	U	0.40	U	0.40
Methyl bromide	ug/l	0.45	U	0.45	U	0.45
Methyl chloride	ug/l	0.50	U	0.50	U	0.50
Methylene chloride	ug/l	0.66	B	0.26	B	0.23
Tetrachloroethylene	ug/l	0.30	U	1	J	0.30
Trichloroethylene	ug/l	0.30	U	0.60	J	0.30
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	MW9		MW5		MW2		MW1		MW2		MW3	
		PC-HN8-MW9-GW4		PC-HN8-MW5-GW4		PC-HN8-MW2-GW4		PC-RT9-MW1-GW4		PC-RT9-MW2-GW4		PC-RT9-MW3-GW4	
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020													
1,2-Dichlorobenzene	ug/l	2.20		0.14	B	0.15	U	0.15	U	0.15	U	0.15	U
1,2-Dimethylbenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.14	B	0.20	U	0.20	U	0.20	U
1,3-Dimethylbenzene	ug/l	-		-		-		-		-		-	
1,3/1,4-Dimethylbenzene	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	ug/l	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
1,4-Dimethylbenzene	ug/l	-		-		-		-		-		-	
Benzene	ug/l	0.35	U	0.35	U	0.09		0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Ethylbenzene	ug/l	0.20	U	0.12		0.20	U	0.20	U	0.20	U	0.20	U
Methyl-t-Butyl Ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Toluene	ug/l	0.15	B	0.17	B	0.36	B	0.25	U	0.25	U	0.25	U
LCBNA													
1,2,4-Trichlorobenzene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,2'-Oxybis(1-Chloropropane)	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methylphenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol	ug/l	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW9	MW5	MW2	MW1	MW2	MW3
SAMPLE ID:	PC-HN8-MW9-GW4	PC-HN8-MW5-GW4	PC-FF7-MW2-GW4	PC-RT9-MW1-GW4	PC-RT9-MW2-GW4	PC-RT9-MW3-GW4
COLLECTION DATE:	09/12/93	09/14/93	09/14/93	08/27/93	08/27/93	08/27/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U
Acenaphthene	5	U	5	U	5	U
Acenaphthylene	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U
Di-n-butyl phthalate	5	U	5	U	5	U
Di-n-octyl phthalate	5	U	5	U	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U
Diethyl phthalate	5	U	5	U	5	U
Dimethyl phthalate	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U
Fluorene	5	U	5	U	5	U
Hexachlorobenzene	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U
Naphthalene	5	U	5	U	5	U
Nitrobenzene	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U
Phenanthrene	5	U	5	U	5	U
Phenol	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	MW9		MW5		MW2		MW1		MW2		MW3	
		PC-HN8-MW9-GW4		PC-HN8-MW5-GW4		PC-FF7-MW2-GW4		PC-RT9-MW1-GW4		PC-RT9-MW2-GW4		PC-RT9-MW3-GW4	
		09/12/93	09/12/93	09/14/93	09/14/93	09/14/93	09/14/93	08/27/93	08/27/93	08/27/93	08/27/93	08/27/93	08/27/93
		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	8	B	3	B	2	B	7	B	5	B	5	B
METALS													
Antimony	ug/l	35	U	45	U	45	U	35	U	35.30	QB	35	U
Antimony, Dissolved	ug/l	35	U	35	U	35	U	35	U	35	U	35	U
Arsenic	ug/l	4	U	13.30	U	17.40	U	45.90	0	30.90	U	25.50	U
Arsenic, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Beryllium	ug/l	1	U	4	U	4	U	1	U	1	QB	1	QB
Beryllium, Dissolved	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	ug/l	3	U	5	U	5	U	3	U	3	U	3	U
Cadmium, Dissolved	ug/l	3	U	3	U	3	U	3	U	3	U	3	U
Chromium	ug/l	8	U	46.30	U	52.20	U	8.20	0	42.70	U	32.70	U
Chromium, Dissolved	ug/l	8	U	8	U	8	U	8	U	8	U	8	U
Copper	ug/l	4	U	55.60	U	66.70	U	61.70	U	56.80	U	62.60	U
Copper, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Lead	ug/l	2	U	44	U	58.50	U	64.60	U	68.60	U	55.10	U
Lead, Dissolved	ug/l	2	UL	2	U	2	U	2	UL	2	UL	2	UL
Mercury	ug/l	0.20	U	0.20	U	0.23	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Nickel	ug/l	18	U	61.30	U	74.70	U	18	U	41.70	U	38.20	U
Nickel, Dissolved	ug/l	18	U	18	U	18	U	18	U	18	U	18	U
Selenium	ug/l	3	UL	3	UL	3	QB	3	U	3	UL	3	UL
Selenium, Dissolved	ug/l	3	UL	6.20	B	R	3	U	3	UL	3	UL	U
Silver	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	ug/l	3	UL	3	UL	3	UL	3	UL	3	U	3	UL
Thallium, Dissolved	ug/l	3	UL	3	UJ	3	UJ	3	UL	3	UL	3	UL
Zinc	ug/l	6.70	QB	137	U	156	U	32	B	103	B	77.80	B
Zinc, Dissolved	ug/l	11.80	QB	4	U	27.80	U	4.40	QB	10.60	QB	4	U
TPH													
Total Petroleum Hydrocarbons	mg/l	0.60	B	0.40	B	0.60	B	0.40	B	0.80	B	0.60	B

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW4 PC-RT9-MW4-GW4 09/08/93		MW5 PC-RT9-MW5-GW4 09/15/93		MW6 PC-RT9-MW6-GW4 09/15/93		PW1 PC-PW-PW1-GW4 08/10/93		PW2 PC-PW-PW2-GW4 08/10/93		PW3 PC-PW-PW3-GW4 08/10/93		
	UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,1,2-Tetrachloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1,1-Trichloroethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
1,1,1,2,2-Tetrachloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,1,1,2-Trichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1-Dichloroethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,1,1-Dichloroethylene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2,3-Trichloropropane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dibromoethane	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
1,2-Dichlorobenzene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-Dichloropropane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,2-Dichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
1,3-trans-Dichloropropylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
1,3-trans-Dichloropropylene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,4-Dichlorobenzene	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
2-Chloroethylvinyl ether	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
2-Chlorotoluene	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
4-Chlorotoluene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Bromobenzene	ug/l	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U
Bromochloromethane	ug/l	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
Bromodichloromethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Bromoform	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon Tetrachloride	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chlorobenzene	ug/l	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Chloroethane	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	ug/l	0.35	U	0.13	U	0.35	U	0.35	U	0.35	U	0.28	U
Dibromochloromethane	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Dibromomethane	ug/l	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U	0.40	U
Methyl bromide	ug/l	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Methyl chloride	ug/l	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	ug/l	0.81	B	0.83	B	0.19	B	0.28	U	0.37	U	0.16	U
Tetrachloroethylene	ug/l	1.70	U	0.30	U	1.50	U	0.30	U	0.30	U	0.30	U
Trichloroethylene	ug/l	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U	0.30	U
Vinyl chloride	ug/l	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U	0.55	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW4 PC-RT9-MW4-GW4 09/08/93		MW5 PC-RT9-MW5-GW4 09/15/93		MW6 PC-RT9-MW6-GW4 09/15/93		PW1 PC-PW-PW1-GW4 08/10/93		PW2 PC-PW-PW2-GW4 08/10/93		PW3 PC-PW-PW3-GW4 08/10/93			
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL		
	UNITS:													
8020	1,1,2-Dichlorobenzene	ug/l	0.15	U	0.15	U	3.60		0.76	B	0.31	B	0.23	B
	1,2-Dimethylbenzene	ug/l	0.20	U	0.20	U	860	E	0.20	U	0.20	U	0.20	U
	1,3-Dichlorobenzene	ug/l	0.75	B	0.20	U	0.19	B	0.20	U	0.20	U	0.20	U
	1,3-Dimethylbenzene	ug/l	-		-		800		0.03		-		-	
	1,3/1,4-Dimethylbenzene	ug/l	0.50	U	0.50	U	-		-		0.50	U	0.50	U
	1,4-Dichlorobenzene	ug/l	0.15	U	0.18	B	18		0.15	U	0.36	B	0.38	B
	1,4-Dimethylbenzene	ug/l	-		-		510		0.03		-		-	
	Benzene	ug/l	0.35	U	0.35	U	3.90	J	0.35	U	0.35	U	0.35	U
	Chlorobenzene	ug/l	0.25	U	0.25	U	0.93		0.25	U	0.25	U	0.25	U
	Ethylbenzene	ug/l	0.20	U	0.20	U	1.40	J	0.20	U	0.09	J	0.20	U
	Methyl-t-Butyl Ether	ug/l	5	U	5	U	1.30	J	5	U	5	U	5	U
	Styrene	ug/l	0.25	U	0.25	U	0.78		0.25	U	0.25	U	0.25	U
	Toluene	ug/l	0.25	U	0.22	B	3.10		0.12	B	0.17	B	0.18	B
	LCBNA	1,2,4-Trichlorobenzene	ug/l	5	U	5	U	5	U	5	U	5	U	5
2,2'-Oxybis(1-Chloropropane)		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4,5-Trichlorophenol		ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4,6-Trichlorophenol		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol		ug/l	5	U	5	U	25	J	5	U	5	U	5	U
2,4-Dinitrophenol		ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chloronaphthalene		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Methyl-4,6-Dinitrophenol		ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Methylnaphthalene		ug/l	5	U	5	U	47		5	U	5	U	5	U
2-Methylphenol		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline		ug/l	20	U	20	U	20	U	20	U	20	U	20	U
2-Nitrophenol		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3,3'-Dichlorobenzidine		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline		ug/l	20	U	20	U	20	U	20	U	20	U	20	U
4-Bromophenyl phenyl ether		ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Chloro-3-methyl phenol		ug/l	5	U	5	U	5	U	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:	MW4	MW5	MW6	PW1	PW2	PW3
SAMPLE ID:	PC-RT9-MW4-GW4	PC-RT9-MW5-GW4	PC-RT9-MW6-GW4	PC-PW-PW1-GW4	PC-PW-PW2-GW4	PC-PW-PW3-GW4
COLLECTION DATE:	09/08/93	09/15/93	09/15/93	08/10/93	08/10/93	08/10/93
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
4-Chloroaniline	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	5	U	5	U	5	U
4-Methylphenol	5	U	5	U	5	U
4-Nitroaniline	20	U	20	U	20	U
4-Nitrophenol	20	U	20	U	20	U
Acenaphthene	5	U	1	U	5	U
Acenaphthylene	5	U	5	U	5	U
Anthracene	5	U	5	U	5	U
Benzo(a)anthracene	5	U	5	U	5	U
Benzo(a)pyrene	5	U	5	U	5	U
Benzo(b)fluoranthene	5	U	5	U	5	U
Benzo(ghi)perylene	5	U	5	U	5	U
Benzo(k)fluoranthene	5	U	5	U	5	U
Butyl benzyl phthalate	5	U	5	U	5	U
Chrysene	5	U	5	U	5	U
Di-n-butyl phthalate	5	U	5	U	5	U
Di-n-octyl phthalate	5	U	1	B	5	U
Dibenzo(a,h)anthracene	5	U	5	U	5	U
Dibenzofuran	5	U	5	U	5	U
Diethyl phthalate	5	U	5	U	5	U
Dimethyl phthalate	5	U	5	U	5	U
Fluoranthene	5	U	5	U	5	U
Fluorene	5	U	0.80	U	5	U
Hexachlorobenzene	5	U	5	U	5	U
Hexachlorobutadiene	5	U	5	U	5	U
Hexachlorocyclopentadiene	5	U	5	U	5	U
Hexachloroethane	5	U	5	U	5	U
Indeno(1,2,3-c,d)pyrene	5	U	5	U	5	U
Isophorone	5	U	5	U	5	U
N-Nitrosodi-N-Propylamine	5	U	5	U	5	U
N-Nitrosodiphenylamine	5	U	5	U	5	U
Naphthalene	5	U	48	U	5	U
Nitrobenzene	5	U	5	U	5	U
Pentachlorophenol	20	U	20	U	20	U
Phenanthrene	5	U	0.80	U	5	U
Phenol	5	U	5	U	5	U

Appendix L - Groundwater Analytical Results from Remedial Investigation Alpena CRTC, Alpena, MI

LOCATOR:		MW4		MW5		MW6		PW1		PW2		PW3	
SAMPLE ID:		PC-RT9-MW4-GW4		PC-RT9-MW5-GW4		PC-RT9-MW6-GW4		PC-PW-PW1-GW4		PC-PW-PW2-GW4		PC-PW-PW3-GW4	
COLLECTION DATE:		09/08/93		09/15/93		09/15/93		08/10/93		08/10/93		08/10/93	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Pyrene	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethoxy)methane	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Chloroethyl) ether	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
bis(2-Ethylhexyl)phthalate	ug/l	2	B	2	B	4	B	1	B	0.60	B	0.90	B
METALS													
Antimony	ug/l	61.60	B	35	U	45	U	44.40	B	35	U	35	U
Antimony, Dissolved	ug/l	35	U	35	U	35	U	38.50	OB	35	U	35	U
Arsenic	ug/l	23	U	4	U	10.80	K	6.40	(I)	4	U	4	U
Arsenic, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Beryllium	ug/l	2.70	U	1	U	4	U	1	U	1	U	1	U
Beryllium, Dissolved	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Cadmium	ug/l	3	U	3	U	5	U	3	U	3	U	3	U
Cadmium, Dissolved	ug/l	3	U	3	U	3	U	3	U	3	U	3	U
Chromium	ug/l	78.80	U	8	U	25.20	U	8	U	8	U	8	U
Chromium, Dissolved	ug/l	8	U	8	U	8	U	8	U	8	U	8	U
Copper	ug/l	90.10	U	4	U	57.80	U	4.60	B	4.10	(B)	4	U
Copper, Dissolved	ug/l	5.70	U	4	U	4	U	4	U	4	U	4	U
Lead	ug/l	89	U	2	U	267	U	2	U	2	U	2.70	U
Lead, Dissolved	ug/l	2	UL	2	UL	15.90	U	2	U	2	U	2	U
Mercury	ug/l	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U
Mercury, Dissolved	ug/l	0.20	U	0.20	U	0.20	U	0.20	UL	0.20	UL	0.20	UL
Nickel	ug/l	74.70	U	18	U	35	U	18	U	18	U	18	U
Nickel, Dissolved	ug/l	18	U	18	U	18	U	18	U	18	U	18	U
Selenium	ug/l	22.70	B	3	U	3	UL	3	UL	3	UL	3	U
Selenium, Dissolved	ug/l	3	U	3	UL	R	3	U	3	U	3	U	U
Silver	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Silver, Dissolved	ug/l	4	U	4	U	4	U	4	U	4	U	4	U
Thallium	ug/l	3	UL	3	UL	3	UL	3	UL	3	UL	3	U
Thallium, Dissolved	ug/l	3	UL	3	UL	3	UL	3	UL	3	UL	3	UL
Zinc	ug/l	176	U	4	U	67.20	U	15.70	U	16.40	U	111	U
Zinc, Dissolved	ug/l	5.60	(B)	4	U	6.30	U	8.60	U	8.90	U	112	U
TPH	mg/l	0.40	B	1.10	B	11.40	B	0.30	B	0.70	B	4	B
Total Petroleum Hydrocarbons	mg/l												

**Appendix M: Facility-wide Soil and Groundwater
Background Determination Data**

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Facility-wide Soil Background Determination and Data

When local background levels are higher than the health based cleanup criteria for metals, MDNR allows the use of the local background levels in place of the cleanup criteria. Soil samples have been collected during three separate sampling events (Engineering Science 1990, Earth Technology, July 1992, and the summer 1993 RI sampling activities) to provide the data necessary to calculate facility-wide inorganic background concentrations. Soil samples during all three events were collected from areas relatively undisturbed by human activity or away from known waste handling areas. The following sections describe the method of calculating background levels at the installation.

The area primarily consists of fine - to - medium grained quartz sand, with clay only in some areas. To obtain background levels that are most representative of the area, samples of both soil types were collected. Fifteen quartz sand samples were collected in the Sports Field and five additional quartz sand samples were collected north of Site 5. The samples were analyzed for 12 priority pollutant metals and the results were statistically analyzed, (according to MDNR, "Verification of Soil Remediation", October 25, 1990), to determine high outliers. After any high outliers were eliminated, background was determined for each metal.

The statistical analysis was completed by determining the mean, variance, standard deviation, and coefficient of variation. If the coefficient of variation was greater than 0.5, the highest number was chosen as a suspected outlier. If the suspected outlier was greater than three times the standard deviation of the mean of all the values except the suspected outlier, that value was eliminated from the data. When all necessary outliers were eliminated, background levels were calculated by adding the statistically analyzed mean to three times the standard deviation of that mean. Table M-1 presents the quartz sand data and statistical analysis results without coefficient of variation modification. Table M-2 presents the quartz sand data with coefficient of variation modifications.

Four quartz sand samples containing clay were collected from Sites 4 and 6. The results were statistically analyzed in the same manner as stated above. The statistical analysis detected high outliers in the arsenic and selenium data. Since MDNR requires at least four samples to determine background, these outliers were replaced with data from samples PCHN8MW1SS1. The statistical analysis was performed again. The arsenic data produced a coefficient of variation below 0.5, but the selenium data produced a coefficient of variation greater than 0.5 and the result from sample PCHN8MW1SS1 was greater than three times the standard deviation of the statistically analyzed mean. Since no additional background samples were taken, the MDNR health-based background level was used for selenium. Table M-3 presents the quartz sand with clay data and statistical analysis results without coefficient of variation modification. Table M-4 presents the quartz sand with clay data with the coefficient of variation modifications.

Table M-5 presents final background levels. Since there are no distinct delineations at the installation where the sand contains large amounts of clay, the quartz sand background levels were averaged with the quartz sand with clay background levels. These final background values provide levels that are most representative of the installation. The final background levels were compared to the MDNR cleanup criteria and the higher of the two levels was chosen as the background value.

Table M-1

Data for Background Determination
Quartz Sand Data - Statistically Unmodified
MIANG, Alpena CRTC, Alpena, MI
Units: mg/kg

Site: Locator:	PCBG1 SB1	PCBG1 SB1	PCBG1 SB1	PCBG1 SB1	PCBG1 SB1	PCBG1 SB1	PCBG1 SB1
Date:	0"-6"	12"-18"	24"-30"	12"-18"	24"-30"	0"-6"	12"-18"
Depth:	CCL	CCL	CCL	CCL	CCL	CCL	CCL
Lab:	*	*	*	*	*	*	*
Source:							
Antimony:		3.8		3.9	3.8	4.7	3.7
Arsenic:	1.9	0.61	0.71	0.65	0.81	1.7	0.88
Cadmium:		0.53		0.55	0.53	0.65	0.52
Chromium:	1.4	3.4	2.9	3.7	3.3	1.7	3.4
Copper:	1.6	1.1	0.75	3.9	0.85	2.8	0.8
Lead:	3.5	1.5	0.89	2.8	1.7	13.8	1.5
Mercury:		0.11		0.11	0.11	0.13	0.1
Nickel:	0.93	2.7	2.2	3.2	2.1	1.1	2.4
Selenium:	1.1	0.32	0.31	0.33	0.32	0.39	0.31
Silver:		0.64		0.66	0.64	0.78	0.62
Thallium:	0.86	0.21	0.21	0.22	0.21	0.26	0.21
Zinc:	6.3	4.7	3.1	8.8	10.9	13.9	3.2

* = Earth Technology, July 1992 sampling activities

Table M-1, continued

Site:	PCBG1 SB3	PCBG1 SB4	PCBG1 SB4	PCBG1 SB4	PCBG1 SB5	PCBG1 SB5	PCBG1 SB5	P00 B1
Locator:								
Date:	24"-30"	12"-18"	24"-30"	0"-6"	0"-6"	12"-18"	24"-30"	2'-3'
Depth:	CCL	CCL	CCL	CCL	CCL	CCL	CCL	CCL
Lab:	*	*	*	*	*	*	*	@
Source:								
Antimony:	3.7	3.7	3.7	4	2.9	0.81	1.5	4.7
Arsenic:	0.57	0.77	0.52	0.85				0.48
Cadmium:	0.52	0.52	0.52	0.55				0.53
Chromium:	2.9	4.2	2.5	2	2.5	3.8	3.6	2.8
Copper:	13.3	1.2	0.68	0.99	0.24	1.7	1.9	1.6
Lead:	0.96	1.4	0.7	2.3	18.7	1.4	0.77	1.1
Mercury:	0.1	0.1	0.1	0.11				0.11
Nickel:	1.5	3.9	2	1	3.6	3.1	3.1	3.7
Selenium:	0.31	0.31	0.31	0.33	0.47	0.41	0.41	0.32
Silver:	0.62	0.62	0.62	0.67				0.42
Thallium:	0.21	0.21	0.21	0.22	0.35	0.3	0.31	0.32
Zinc:	14.9	3.9	3.4	4.6	22.3	6.1	14.9	3.8

* = Earth Technology, July 1992 sampling activities

@ = Earth Technology, summer 1993 sampling activities

Table M-1, continued

Site:	P00	P00	P00	P00
Locator:	B1	B2	B2	B1
Date:				
Depth:	9'-10'	0'-1'	2'-3'	0'-1'
Lab:	CCL	CCL	CCL	CCL
Source:	@	@	@	@
	MEAN	VARIANCE	STD DEV	CV
Antimony	4.28	0.42	0.65	0.15
Arsenic:	1.00	0.37	0.61	0.60
Cadmium:	0.55	0.00	0.04	0.07
Chromium:	3.07	0.86	0.92	0.30
Copper:	2.10	7.28	2.70	1.28
Lead:	3.06	20.47	4.52	1.48
Mercury:	0.11	8.62E-5	0.01	0.08
Nickel:	2.72	1.14	1.07	0.39
Selenium:	0.40	0.03	0.18	0.45
Silver:	0.58	0.01	0.10	0.18
Thallium:	0.30	0.02	0.14	0.48
Zinc:	8.46	28.48	5.34	0.63
				BACKGROUND
				6.23
				2.82
				0.67
				5.84
				10.20
				16.63
				0.14
				5.93
				0.93
				0.90
				0.72
				24.47

@ = Earth Technology, summer 1993 sampling activities

Table M-2

Data for Background Determination
Quartz Sand - Statistically Modified
MIANG, Alpena CRTC, Alpena, MI
Units: mg/kg

Site:	PCBG1	PCBG1	PCBG1	PCBG1	PCBG1	PCBG1	PCBG1
Locator:	SB1	SB1	SB1	SB1	SB1	SB1	SB1
Date:		12"-18"	24"-30"	12"-18"	24"-30"	0"-6"	12"-18"
Depth:		CCL	CCL	CCL	CCL	CCL	CCL
Lab:		*	*	*	*	*	*
Source:							
Antimony:		3.8		3.9	3.8	4.7	3.7
Arsenic:	1.9	0.61		0.65	0.81	1.7	0.88
Cadmium:		0.53	0.71	0.55	0.53	0.65	0.52
Chromium:	1.4	3.4	2.9	3.7	3.3	1.7	3.4
Copper:	1.6	1.1	0.75		0.85	2.8	0.8
Lead:	3.5	1.5	0.89	2.8	1.7	1.5	1.5
Mercury:		0.11		0.11	0.11	0.13	0.1
Nickel:	0.93	2.7	2.2	3.2	2.1	1.1	2.4
Selenium:	1.1	0.32	0.31	0.33	0.32	0.39	0.31
Silver:		0.64		0.66	0.64	0.78	0.62
Thallium:	0.86	0.21	0.21	0.22	0.21	0.26	0.21
Zinc:	6.3	4.7	3.1	8.8	10.9	4.3	3.2

* = Earth Technology, July 1992 sampling activities

Table M-2, continued

Site:	PCBG1 SB3	PCBG1 SB4	PCBG1 SB4	PCBG1 SB4	PCBG1 SB5	PCBG1 SB5	PCBG1 SB5	P00 B1
Locator:	24"-30"	12"-18"	24"-30"	0"-6"	0"-6"	12"-18"	24"-30"	2'-3'
Date:	CCL	CCL	CCL	CCL	CCL	CCL	CCL	CCL
Depth:	*	*	*	*	*	*	*	@
Lab:								
Source:								
Antimony:	3.7	3.7	3.7	4				4.7
Arsenic:	0.57	0.77	0.52	0.85		0.81	1.5	0.48
Cadmium:	0.52	0.52	0.52	0.55				0.53
Chromium:	2.9	4.2	2.5	2	2.5	3.8	3.6	2.8
Copper:		1.2	0.68	0.99	0.24	1.7	1.9	1.6
Lead:	0.96	1.4	0.7	2.3		1.4	0.77	1.1
Mercury:	0.1	0.1	0.1	0.11				0.11
Nickel:	1.5	3.9	2	1	0.36	3.1	3.1	3.7
Selenium:	0.31	0.31	0.31	0.33	0.47	0.41	0.41	0.32
Silver:	0.62	0.62	0.62	0.67				0.42
Thallium:	0.21	0.21	0.21	0.22	0.35	0.3	0.31	0.32
Zinc:		3.9	3.4	4.6		6.1		3.8

* = Earth Technology, July 1992 sampling activities

@ = Earth Technology, summer 1993 sampling activities

Table M-2, continued

Site:	P00	P00	P00	P00
Locator:	B1	B2	B2	B1
Date:	9'-10'	0'-1'	2'-3'	0'-1'
Depth:	CCL	CCL	CCL	CCL
Lab:	@	@	@	@
Source:				

@ = Earth Technology, summer 1993 sampling activities

**Data for Background Determination
Quartz Sand with Clay - Statistically Unmodified
MIANG, Alpena CRTc, Alpena, MI
Units: mg/kg**

= Engineering Science, 1990 sampling activities

Table M-4
Data for Background Determination
Quartz Sand with Clay - Statistically Modified
MIANG, Alpena CRTC, Alpena, MI
Units: mg/kg

Site:	PCTF4	PCTF4	PCLF6	PCLF6	PCHN8					
Locator:	MW1	MW1	MW1	MW1	MW1					
Date:										
Depth:	5'	10'	2.5'	10'	2.5'-5'					
Source:	#	#	#	#	#					
						MEAN	VARIANCE	STD DEV	CV	BACKGROUND
Antimony:	3	3	3	3		3	0	0	0.00	3
Arsenic:	0.51	0.36	1.3		1.3	0.87	0.19	0.44	0.50	2.17
Cadmium:	0.4	0.4	0.4	0.4		0.40	0	0	0.00	0.40
Chromium:	9	4.5	3.6	4.8		5.48	4.34	2.08	0.38	11.72
Copper:	0.85	0.66	0.78	1.3		0.90	0.06	0.24	0.27	1.62
Lead:	6.2	1.2	4.3	5.3		4.25	3.55	1.88	0.44	9.90
Mercury:	0.1	0.1	0.1	0.1		0.10	0	0	0.00	0.10
Nickel:	1.6	2.8	2.4	1.9		2.18	0.21	0.46	0.21	3.56
Selenium:	0.4	0.31		1.5	0.5	0.68	0.23	0.48	0.71	2.12
Silver:	0.7	0.7	0.7	0.7		0.70	0	0	0.00	0.70
Thallium:	4	4	4	4		4	0	0	0.00	4
Zinc:	6.2	5.6	3.1	3.9		4.7	1.56	1.25	0.27	8.45

= Engineering Science, 1990 sampling activities

Table M-5
 Data for Background Determination
 Quartz Sand Background Values Averaged with Quartz Sand with Clay Background Values
 MIANG, Alpena CRTC, Alpena, MI
 Units: mg/kg

	Quartz Sand Background Values	Quartz Sand with Clay Background Values	Final Local Background Values
Antimony	6.23	3	4.62
Arsenic	2.2	2.17	2.18
Cadmium	0.67	0.40	0.54
Chromium	5.84	11.72	8.78
Copper	3.33	1.62	2.48
Lead	3.93	9.90	6.92
Mercury	0.14	0.10	0.12
Nickel	5.93	3.56	4.74
Selenium	0.93	2.12	1.52
Silver	0.90	0.70	0.80
Thallium	0.72	4	2.36
Zinc	14.25	8.45	11.35

Groundwater Background Determination Data

Data for Background Calculations of Groundwater
Alpena CRTC, Alpena, MI

SAMPLE ID	MATRIX	ANALYTE	RESULT	QUALIFIER	UNITS	METHOD
PC-MP2-MW1-GW1	GROUNDWATE	Potassium, Dissolved	830.00		ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Sodium, Dissolved	12000.00		ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Antimony, Dissolved	16.00	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Arsenic, Dissolved	0.50	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Beryllium, Dissolved	0.15	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Cadmium, Dissolved	2.00	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Chromium, Dissolved	3.50	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Copper, Dissolved	3.00	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Lead, Dissolved	0.50	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Mercury, Dissolved	0.25	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Nickel, Dissolved	7.50	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Selenium, Dissolved	1.00	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Silver, Dissolved	3.50	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Thallium, Dissolved	20.00	ND	ug/l	CLP
PC-MP2-MW1-GW1	GROUNDWATE	Zinc, Dissolved	1.00	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Potassium, Dissolved	1900.00		ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Sodium, Dissolved	900.00		ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Antimony, Dissolved	16.00	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Arsenic, Dissolved	0.50	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Beryllium, Dissolved	0.15	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Cadmium, Dissolved	2.00	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Chromium, Dissolved	3.50	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Copper, Dissolved	3.00	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Lead, Dissolved	0.50	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Mercury, Dissolved	0.25	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Nickel, Dissolved	7.50	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Selenium, Dissolved	1.00	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Silver, Dissolved	3.50	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Thallium, Dissolved	20.00	ND	ug/l	CLP
PC-CG3-MW1-GW1	GROUNDWATE	Zinc, Dissolved	1.00	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Mercury, Dissolved	0.25	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Nickel, Dissolved	7.50	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Selenium, Dissolved	1.00	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Silver, Dissolved	3.50	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Thallium, Dissolved	20.00	ND	ug/l	CLP

Data for Background Calculations of Groundwater
Alpena CRTC, Alpena, MI

SAMPLE ID	MATRIX	ANALYTE	RESULT	QUALIFIER	UNITS	METHOD
PC-TF4-MW1-GW1	GROUNDWATE	Zinc, Dissolved	1.00	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Antimony, Dissolved	16.00	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Arsenic, Dissolved	0.50	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Beryllium, Dissolved	0.15	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Cadmium, Dissolved	2.00	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Chromium, Dissolved	3.50	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Copper, Dissolved	3.00	ND	ug/l	CLP
PC-TF4-MW1-GW1	GROUNDWATE	Lead, Dissolved	0.50	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Potassium, Dissolved	1700.00		ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Sodium, Dissolved	12000.00		ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Antimony, Dissolved	16.00	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Arsenic, Dissolved	0.50	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Beryllium, Dissolved	0.15	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Cadmium, Dissolved	2.00	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Chromium, Dissolved	3.50	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Copper, Dissolved	3.00	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Lead, Dissolved	0.50	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Mercury, Dissolved	0.25	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Nickel, Dissolved	7.50	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Selenium, Dissolved	1.00	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Silver, Dissolved	3.50	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Thallium, Dissolved	20.00	ND	ug/l	CLP
PC-SF5-MW2-GW1	GROUNDWATE	Zinc, Dissolved	1.00	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Antimony, Dissolved	16.00	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Arsenic, Dissolved	0.50	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Beryllium, Dissolved	0.15	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Cadmium, Dissolved	2.00	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Chromium, Dissolved	3.50	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Copper, Dissolved	3.00	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Lead, Dissolved	0.50	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Mercury, Dissolved	0.25	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Nickel, Dissolved	7.50	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Selenium, Dissolved	1.00	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Silver, Dissolved	3.50	ND	ug/l	CLP
PC-HN8-MW1-GW1	GROUNDWATE	Thallium, Dissolved	20.00	ND	ug/l	CLP

Data for Background Calculations of Groundwater
Alpena CRTC, Alpena, MI

SAMPLE ID	MATRIX	ANALYTE	RESULT	QUALIFIER	UNITS	METHOD
PC-HN8-MW1-GW1	GROUNDWATE	Zinc, Dissolved	1.00	ND	ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Antimony, Dissolved	18.00		ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Barium, Dissolved	0.50		ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Calcium, Dissolved	80800.00		ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Iron, Dissolved	5.50	J	ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Lead, Dissolved	1.00	U	ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Magnesium, Dissolved	9220.00		ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Manganese, Dissolved	0.50		ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Potassium, Dissolved	365.00		ug/l	CLP
PC-MP2-MW1-GW3	GROUNDWATE	Sodium, Dissolved	5950.00	J	ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Antimony, Dissolved	18.00	U	ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Barium, Dissolved	4.60		ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Calcium, Dissolved	50600.00		ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Copper, Dissolved	25.30		ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Lead, Dissolved	1.00	U	ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Magnesium, Dissolved	7900.00		ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Manganese, Dissolved	0.50	U	ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Potassium, Dissolved	3560.00		ug/l	CLP
PC-CG3-MW1-GW3	GROUNDWATE	Sodium, Dissolved	3470.00	J	ug/l	CLP
PC-TF4-MW1-GW3	GROUNDWATE	Barium, Dissolved	6.10		ug/l	CLP
PC-TF4-MW1-GW3	GROUNDWATE	Calcium, Dissolved	51300.00		ug/l	CLP
PC-TF4-MW1-GW3	GROUNDWATE	Iron, Dissolved	24.40		ug/l	CLP
PC-TF4-MW1-GW3	GROUNDWATE	Magnesium, Dissolved	7920.00		ug/l	CLP
PC-TF4-MW1-GW3	GROUNDWATE	Manganese, Dissolved	0.50	U	ug/l	CLP
PC-TF4-MW1-GW3	GROUNDWATE	Mercury, Dissolved	0.23	J	ug/l	CLP
PC-TF4-MW1-GW3	GROUNDWATE	Nickel, Dissolved	4.00	U	ug/l	CLP
PC-TF4-MW1-GW3	GROUNDWATE	Potassium, Dissolved	2500.00		ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Arsenic, Dissolved	2.50	U	ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Barium, Dissolved	9.00		ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Calcium, Dissolved	35700.00		ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Iron, Dissolved	21.70		ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Lead, Dissolved	1.00	UL	ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Magnesium, Dissolved	13300.00		ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Manganese, Dissolved	2.30		ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Potassium, Dissolved	3510.00		ug/l	CLP

Data for Background Calculations of Groundwater
Alpena CRFC, Alpena, MI

SAMPLE ID	MATRIX	ANALYTE	RESULT	QUALIFIER	UNITS	METHOD
PC-SF5-MW2-GW3	GROUNDWATE	Sodium, Dissolved	8080.00	J	ug/l	CLP
PC-SF5-MW2-GW3	GROUNDWATE	Vanadium, Dissolved	3.00	U	ug/l	CLP
PC-HN8-MW1-GW3	GROUNDWATE	Calcium, Dissolved	69900.00		ug/l	CLP
PC-HN8-MW1-GW3	GROUNDWATE	Lead, Dissolved	1.00	U	ug/l	CLP
PC-HN8-MW1-GW3	GROUNDWATE	Magnesium, Dissolved	9820.00		ug/l	CLP
PC-HN8-MW1-GW3	GROUNDWATE	Manganese, Dissolved	0.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Antimony, Dissolved	17.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Arsenic, Dissolved	7.20	()	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Beryllium, Dissolved	0.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Cadmium, Dissolved	1.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Chromium, Dissolved	4.00	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Copper, Dissolved	2.00	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Lead, Dissolved	1.00	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Mercury, Dissolved	0.10	UL	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Nickel, Dissolved	9.00	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Selenium, Dissolved	1.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Silver, Dissolved	2.00	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Zinc, Dissolved	19.10	()	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Antimony	17.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Arsenic	14.70	K	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Beryllium	0.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Cadmium	1.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Chromium	4.00	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Copper	27.80		ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Lead	4.50		ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Mercury	0.10	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Nickel	9.00	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Selenium	1.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Silver	2.00	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Thallium	1.50	U	ug/l	CLP
PC-MP2-MW1-GW4	GROUNDWATE	Zinc	43.50		ug/l	CLP
PC-P1-MW2-GW4	GROUNDWATE	Antimony	17.50	U	ug/l	CLP
PC-P1-MW2-GW4	GROUNDWATE	Arsenic	2.00	U	ug/l	CLP
PC-P1-MW2-GW4	GROUNDWATE	Beryllium	0.50	U	ug/l	CLP
PC-P1-MW2-GW4	GROUNDWATE	Cadmium	1.50	U	ug/l	CLP

Data for Background Calculations of Groundwater
Alpena CRTC, Alpena, MI

SAMPLE ID	MATRIX	ANALYTE	RESULT	QUALIFIER	UNITS	METHOD
PC-P1-NW2-GW4	GROUNDWATE	Chromium	9.90		ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Copper	5.10		ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Lead	1.00	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Mercury	0.10	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Nickel	9.00	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Silver	2.00	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Thallium	1.50	UL	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Zinc	12.90	(J)	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Antimony, Dissolved	17.50	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Arsenic, Dissolved	2.00	UL	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Beryllium, Dissolved	0.50	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Cadmium, Dissolved	1.50	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Chromium, Dissolved	4.00	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Copper, Dissolved	6.30	()	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Lead, Dissolved	1.00	UL	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Mercury, Dissolved	0.10	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Nickel, Dissolved	9.00	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Selenium, Dissolved	1.50	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Silver, Dissolved	2.00	U	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Thallium, Dissolved	1.50	UL	ug/l	CLP
PC-P1-NW2-GW4	GROUNDWATE	Zinc, Dissolved	25.00		ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Antimony, Dissolved	17.50	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Arsenic, Dissolved	2.00	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Beryllium, Dissolved	0.50	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Cadmium, Dissolved	1.50	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Chromium, Dissolved	4.00	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Copper, Dissolved	2.00	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Lead, Dissolved	2.00	()	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Mercury, Dissolved	0.10	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Nickel, Dissolved	9.00	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Selenium, Dissolved	1.50	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Silver, Dissolved	2.00	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Thallium, Dissolved	1.50	UL	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Zinc, Dissolved	2.00	U	ug/l	CLP
PC-CG3-MW1-GW4	GROUNDWATE	Antimony	17.50	U	ug/l	SW-846

Data for Background Calculations of Groundwater
Alpena CRTC, Alpena, MI

SAMPLE ID	MATRIX	ANALYTE	RESULT	QUALIFIER	UNITS	METHOD
PC-CG3-MW1-GW4	GROUNDWATE	Arsenic	2.00	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Beryllium	0.50	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Cadmium	1.50	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Chromium	4.00	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Copper	2.00	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Lead	1.00	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Mercury	0.10	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Nickel	9.00	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Selenium	1.50	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Silver	2.00	U	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Thallium	1.50	UL	ug/l	SW-846
PC-CG3-MW1-GW4	GROUNDWATE	Zinc	2.00	U	ug/l	SW-846
PC-TF4-MW1-GW4	GROUNDWATE	Antimony	17.50	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Arsenic	15.60	L	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Beryllium	1.40	()	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Cadmium	1.50	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Chromium	61.10	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Copper	79.90	J	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Lead	56.60	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Mercury	0.10	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Nickel	56.00	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Selenium	1.50	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Silver	2.00	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Thallium	1.50	UL	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Zinc	137.00	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Arsenic, Dissolved	2.00	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Beryllium, Dissolved	0.50	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Cadmium, Dissolved	1.50	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Chromium, Dissolved	4.00	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Copper, Dissolved	2.00	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Lead, Dissolved	1.00	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Mercury, Dissolved	0.10	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Nickel, Dissolved	9.00	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Selenium, Dissolved	1.50	U	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Silver, Dissolved	2.00	U	ug/l	CLP

Data for Background Calculations of Groundwater
Alpena CRTC, Alpena, MI

SAMPLE ID	MATRIX	ANALYTE	RESULT	QUALIFIER	UNITS	METHOD
PC-TF4-MW1-GW4	GROUNDWATE	Thallium, Dissolved	1.50	UL	ug/l	CLP
PC-TF4-MW1-GW4	GROUNDWATE	Zinc, Dissolved	2.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Antimony	17.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Arsenic	2.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Beryllium	0.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Cadmium	1.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Chromium	4.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Lead	1.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Mercury	0.10	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Nickel	9.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Selenium	1.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Silver	2.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Thallium	1.50	UL	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Antimony	17.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Arsenic	2.00	UL	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Beryllium	0.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Cadmium	1.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Chromium	4.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Lead	1.00	UL	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Mercury	0.10	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Nickel	9.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Selenium	1.50	UN	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Silver	2.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Thallium	1.50	UL	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Antimony, Dissolved	17.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Arsenic, Dissolved	2.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Beryllium, Dissolved	0.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Cadmium, Dissolved	1.50	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Chromium, Dissolved	4.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Copper, Dissolved	2.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Lead, Dissolved	1.00	UL	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Mercury, Dissolved	0.10	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Nickel, Dissolved	9.00	U	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Selenium, Dissolved	1.50	UL	ug/l	CLP
PC-SF5-MW2-GW4	GROUNDWATE	Silver, Dissolved	2.00	U	ug/l	CLP

Data for Background Calculations of Groundwater
Alpena CRTC, Alpena, MI

SAMPLE ID	MATRIX	ANALYTE	RESULT	QUALIFIER	UNITS	METHOD
PC-SF5-MW2-GW4	GROUNDWATE	Thallium, Dissolved	1.50	UL	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Arsenic, Dissolved	2.00	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Beryllium, Dissolved	0.50	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Cadmium, Dissolved	1.50	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Chromium, Dissolved	4.00	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Copper, Dissolved	2.00	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Mercury, Dissolved	0.10	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Nickel, Dissolved	9.00	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Selenium, Dissolved	1.50	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Silver, Dissolved	2.00	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Thallium, Dissolved	1.50	UL	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Zinc, Dissolved	2.00	U	ug/l	CLP
PC-HN8-MW1-GW4	GROUNDWATE	Arsenic	2.00	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Beryllium	0.50	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Cadmium	1.50	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Chromium	4.00	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Copper	2.00	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Lead	1.00	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Mercury	0.10	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Nickel	9.00	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Selenium	1.50	UL	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Silver	2.00	U	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Thallium	1.50	UL	ug/l	SW-846
PC-HN8-MW1-GW4	GROUNDWATE	Zinc	2.00	U	ug/l	SW-846

**Appendix N: Analytical Results; Round Three
Groundwater and Background Soil Sampling
Fixed Base Laboratory Data Summary**

Appendix N: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SBI		SBI		SBI		SBI		SBI		SBI		SBI		SBI	
	PC-BG1-SBI-SS06		PC-BG1-SBI-SS12-18		PC-BG1-SBI-SS24-30		PC-BG1-SBI-SS06		PC-BG1-SBI-SS12-18		PC-BG1-SBI-SS24-30		PC-BG1-SBI-SS06		PC-BG1-SBI-SS12-18	
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
UNITS:	10/17/91		10/17/91		10/17/91		10/17/91		10/17/91		10/17/91		10/17/91		10/17/91	
Aluminum	755		4400		2070		1350		0		3730		0		0	
Arsenic	1.90		0		0		1.70		0		0		0		0	
Barium	0		0		0		0		0		0		0		0	
Beryllium	0.12		0.11		0.10		0.13		0		0.11		0		0.11	
Butylbenzylphthalate	380	U	350	U	340	U	92	U	350	U	130	U	350	U	130	U
Calcium	0	J	0	J	0	J	1240	J	0	J	0	J	0	J	0	J
Chromium	1.40		3.40		2.90		1.70		0		3.30		0		3.30	
Cobalt	0.58		0		0		0.65		0		0		0		0	
Copper	0	K	0	K	0	K	0	K	0	K	0	K	0	K	0	K
Diethyl phthalate	380	U	350	U	340	U	420	U	70	U	350	U	70	U	350	U
Iron	688		2750		1960		1100		0		2660		0		2660	
Lead	3.50		1.50		0.89		13.80		0		1.70		0		1.70	
Magnesium	0		0		0		0		0		0		0		0	
Manganese	43.20		12		19.50		99.60		0		28.40		0		28.40	
Methylene Chloride	26	B	34	B	23	B	38	B	0	B	20	B	0	B	20	B
Nickel	0.93	U	0	U	0	U	0	U	0	U	0	U	0	U	0	U
Pentachlorophenol	-		-		-		-		-		-		-		-	
Potassium	0	B	0	B	75.50	U	0.39	U	0	U	0	U	0	U	0	U
Selenium	1.10		0.32		0.31		0.39		0		0.32		0		0.32	
Silver	-		-		-		-		-		-		-		-	
Sodium	0	B	0	B	0	B	0	B	0	B	0	B	0	B	0	B
Thallium	0		0.21		0.21		0.26		0		0.21		0		0.21	
Total Petroleum Hydrocarbons	130		25		25		210		0		25		0		25	
Vanadium	0	J	0	J	0	J	0	J	0	J	0	J	0	J	0	J
Zinc	6.30	B	4.70	B	3.10	B	13.90	B	170	B	10.90	B	170	B	10.90	B
bis(2-Ethylhexyl)phthalate	44		350		39		43		350		350		350		350	

Appendix N: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SB3		SB3		SB3		SB4		SB4		SB4	
	PC-BG1-SB3-SS06	10/17/91	PC-BG1-SB3-SS12-18	10/17/91	PC-BG1-SB3-SS24-30	10/17/91	PC-BG1-SB4-SS06	10/17/91	PC-BG1-SB4-SS12-18	10/17/91	PC-BG1-SB4-SS24-30	10/17/91
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum	4480		3610		2150		1760		3790		1490	
Arsenic	0		0		0		0		0		0.52	U
Barium	0		0		0		0		0		0	
Beryllium	0.11	U	0.10		0.10	U	0.11	U	0		0.10	U
Butylbenzylphthalate	160	B	340	U	340	U	160	BJ	340	U	83	BJ
Calcium	0	J	0	J	0	J	0	J	0	J	0	J
Chromium	2.90		3.40		2.90		2		4.20		2.50	
Cobalt	0		0		0		0		0		0	
Copper	0	J	0.80	K	13.30	K	0	K	0	K	0	K
Diethyl phthalate	360	U	270	B	340	U	370	U	340	U	340	U
Iron	2970		2630		2290		1530		2740		1770	
Lead	1.50		1.50		0.96		2.30		1.40		0.70	
Magnesium	0		0		0		0		0		0	
Manganese	22.10		13.30		20.20		22.20		14.40		23.50	
Methylene Chloride	32	B	32	B	17	B	29	B	13.40	B	15	B
Nickel	0		0		0		0		0		0	
Pentachlorophenol	-		-		-		-		-		-	
Potassium	0		75.90	U	0		0		75.90	U	75.60	U
Selenium	0.32	U	0.31	U	0.31	U	0.33	U	0.31	U	0.31	U
Silver	-		-		-		-		-		-	
Sodium	0	B	0	B	0		0	B	0	B	0	B
Thallium	0.22	U	0.21	U	0.21	U	0.22	U	0.21	U	0.21	U
Total Petroleum Hydrocarbons	25	U	25	U	25	U	25	U	25	U	25	U
Vanadium	5.80		0	B	0	B	0		5.30		0	
Zinc	4.30	J	3.20	J	14.90	J	4.60	J	3.90	J	3.40	J
bis(2-Ethylhexyl)phthalate	360	U	340	U	340	U	42	J	340	U	340	U

UNITS:

Chemical	mg/kg	1850	3000	2210	3180	1600	2590
Aluminum	mg/kg						
Arsenic	mg/kg	2.90	L	1.50	1.30	0.54	1.60
Barium	mg/kg	24.60	0	0	0	0	0
Beryllium	mg/kg	0.24	U	0.21	U	U	U
Butylbenzylphthalate	ug/kg	0		0	-	-	-
Butylbenzylphthalate	ug/kg	0		0	120	390	350
Calcium	mg/kg	2170	374	377	2190	0	51300
Chromium	mg/kg	2.50	J	3.60	4.10	3.20	2.80
Cobalt	mg/kg	0	0	0	0	0	0
Copper	mg/kg	0	0	0	14.80	0	16.70
Diethyl phthalate	ug/kg	0	0	0	380	390	350
Diethyl phthalate	ug/kg	0			2580	1660	2360
Iron	mg/kg	1740	2240	1980	52.50	11.50	5.90
Lead	mg/kg	18.70	L	0.77	525	0	8970
Magnesium	mg/kg	0	0	0	22.10	14.20	60.20
Manganese	mg/kg	100	12.50	12.40	20	9.60	39
Methylene Chloride	ug/kg	0	0	0	0	0	0
Nickel	mg/kg	3.60	U	3.10	910	130	850
Pentachlorophenol	ug/kg	-	-	-	0	0	0
Potassium	mg/kg	0	254	257	0.31	0.33	0.32
Selenium	mg/kg	0	0.41	0.41	1.10	0.65	0.64
Silver	mg/kg	-	-	-	0	0	0
Sodium	mg/kg	0	0	0	0	0	0
Thallium	mg/kg	0.35	U	0.31	0.21	0.22	0.21
Total Petroleum Hydrocarbons	mg/kg	57	25	25	130	1400	25
Vanadium	mg/kg	22.30	J	14.90	43.90	23.90	17
Zinc	mg/kg	0	6.10	0	380	110	40
Zinc Diethylenetriphthalate	ug/kg	0	0	0	0	0	0

Appendix N: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:	SB2	SB3	SB3	SB4	SB4	SB5
SAMPLE ID:	PC-SF5-SB2-SS48-54	PC-SF5-SB3-SS06	PC-SF5-SB3-SS48-54	PC-SF5-SB4-SS06	PC-SF5-SB4-SS48-54	PC-SF5-SB5-SS06
COLLECTION DATE:	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91	10/18/91
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum	1230		3180		2090	
Arsenic	0.54	U	0.50	L	0.54	UL
Barium	0		0.10		0.10	
Beryllium	-		-		-	
Butylbenzylphthalate	110	BJ	350	U	40	BJ
Calcium	0	J	0	J	0	J
Chromium	3.10		4		3.20	J
Cobalt	0		0.50		0.50	
Copper	3.20	K	0.60		4.70	U
Diethyl phthalate	350	U	350	U	380	U
Iron	2010		2180		1830	
Lead	1.10		1.40		3.70	
Magnesium	0		3.50		3.50	
Manganese	18.40		20		21.70	
Methylene Chloride	31	B	31	B	30	B
Nickel	0		0.80		0.80	
Pentachlorophenol	850	U	840	U	930	U
Potassium	0		73		73	
Selenium	0.32	U	R	R	0.59	L
Silver	0.64	UJ	0.62	U	0.68	U
Sodium	0	B	0	B	0	B
Thallium	0.21	U	0.21	U	0.23	U
Total Petroleum Hydrocarbons	26		-		-	
Vanadium	0		0.60		0.60	
Zinc	4.60	J	6.10		17.50	J
bis(2-Ethylhexyl)phthalate	350	U	350	U	39	J
					340	U
					5.60	
					7.90	
					4.90	
					350	U
					0.67	U
					0	B
					0.22	U
					25	U
					81.30	U
					840	UL
					23	B
					13.40	
					0	
					1.70	
					3950	U
					350	K
					0	
					753	U
					350	
					0.51	U
					6.20	J
					340	U
					0.52	UL
					4820	
					0	
					0	

Appendix N: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SB5 SB6
SAMPLE ID: PC-SF5-SB5-SS48-54 PC-SF5-SB6-SS06
COLLECTION DATE: 10/18/91 10/18/91

	UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL		
Aluminum	mg/kg	1810	0.53	U	2450	0.52	U	1050	0.52	U
Arsenic	mg/kg	0				0			0	
Barium	mg/kg	-				-			-	
Beryllium	mg/kg	340	U		360	UJ		340	U	
Butylbenzylphthalate	ug/kg	0	J		1320	J		0	J	
Calcium	mg/kg	2.90			3.20			2.70		
Chromium	mg/kg	0			0			0		
Cobalt	mg/kg	0			0			0		
Copper	mg/kg	53	J		1200	B		340	K	
Diethyl phthalate	ug/kg	1810			2020			1490	U	
Iron	mg/kg	1.20			1.90			0.88		
Lead	mg/kg	0			657			0		
Magnesium	mg/kg	12.80			17.90			10.90		
Manganese	mg/kg	25	B		23	B		4	B	
Methylene Chloride	ug/kg	0			0			0		
Nickel	mg/kg	820	U		870	U		820	U	
Pentachlorophenol	ug/kg	0			0			76	U	
Potassium	mg/kg	0.32	U		0.31	U		0.31	U	
Selenium	mg/kg	0.63	U		0.63	U		0.62	U	
Silver	mg/kg	0	B		0	B		0	B	
Sodium	mg/kg	0.21	U		0.21	U		0.21	U	
Thallium	mg/kg	25	U		25	U		25	U	
Total Petroleum Hydrocarbons	mg/kg	0			0			0		
Vanadium	mg/kg	11.70	J		4.80	J		2.80	J	
Zinc	mg/kg	40	B		360	U		340	U	
bis(2-Ethylhexyl)phthalate	ug/kg									

Appendix N: Groundwater Analytical Results Alpena CRTC, Alpena, MI

	LOCATOR:		MW1		MW2		MW3		MW4		MW5		MW1	
	SAMPLE ID:		PC-MP2-MW1-GW3		PC-MP2-MW2-GW3		PC-MP2-MW3-GW3		PC-MP2-MW4-GW3		PC-MP2-MW5-GW3		PC-CG3-MW1-GW3	
	COLLECTION DATE:		10/11/91		10/11/91		10/11/91		10/11/91		10/10/91		10/12/91	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum	0	B	0	B	0	B	0	B	238	B	0	B	0	B
Arsenic	-		-		-		-		-		-		-	
Barium	1		1		1		1		1		1		1	
Beryllium	-		-		-		-		-		-		-	
Butylbenzylphthalate	-		-		-		-		-		-		1	
Calcium	80800		39900		42200		42200		54000		11200		50600	
Chromium	-		-		-		-		-		-		-	
Cobalt	-		-		-		-		-		-		-	
Copper	-		-		-		-		-		-		25.30	
Diethyl phthalate	5	U	1	B	1	B	1	B	5	U	5	U	5	U
Iron	11	J	11	B	101	J	101	J	705	J	11	J	R	
Lead	2	U	2	U	2	U	2	U	4.60	B	2	U	2	U
Magnesium	9220		35		5550		5550		9050		35		7900	
Manganese	1		16.60		43.80		43.80		1		1		1	U
Methylene Chloride	-		-		-		-		-		-		-	
Nickel	-		-		-		-		-		-		-	
Pentachlorophenol	-		-		-		-		-		-		-	
Potassium	730		730		730		730		730		730		730	
Selenium	-		-		-		-		-		-		-	
Silver	-		-		-		-		-		-		-	
Sodium	5950	J	0	J	0	J	0	J	0	J	322000	J	0	J
Thallium	-		-		-		-		-		-		-	
Total Petroleum Hydrocarbons	-		-		-		-		-		-		-	
Vanadium	-		-		-		-		-		-		-	
Zinc	2	B	2	B	2	B	2	B	2	B	2	B	2	B
bis(2-Ethylhexyl)phthalate	5	U	5	U	5	U	5	U	2	B	4	B	5	B

Appendix N: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW2		MW3		MW4		MW5		MW6		MW1	
	PC-CG3-MW2-GW3		PC-CG3-MW3-GW3		PC-CG3-MW4-GW3		PC-CG3-MW5-GW3		PC-CG3-MW6-GW3		PC-TF4-MW1-GW3	
	10/12/91	10/11/91	10/11/91	10/11/91	10/11/91	10/11/91	10/11/91	10/11/91	10/11/91	10/14/91	10/14/91	10/14/91
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
Aluminum	0	B	219	B	0	B	0	B	0	B	0	B
Arsenic	-		-		-		-		-		-	
Barium	1		1		1		1		1		1	
Beryllium	-		-		-		-		-		-	
Butylbenzylphthalate	5	U	5	U	12		5	U	3		-	
Calcium	98700		67200		46600		46800		84000		51300	
Chromium	-		-		-		-		-		-	
Cobalt	-		-		-		-		-		-	
Copper	6	U	6	U	6	U	6	U	6	U	1	B
Diethyl phthalate	1	B	1	B	2	B	5	U	2	B	1	
Iron	11	B	293	J	11	U	11	U	11	U	11	U
Lead	2		2	U	2		2		2		2	
Magnesium	12000	U	7840		8760		8750		6920		7920	U
Manganese	1		1		1		1		550		1	U
Methylene Chloride	-		-		-		-		-		8	U
Nickel	-		-		-		-		-		-	
Pentachlorophenol	-		-		-		-		-		-	
Potassium	730		730	B	730		730		6320		730	
Selenium	-		-		-		-		-		-	
Silver	-		-		-		-		-		-	
Sodium	14700	J	0	J	0	J	0	J	0	J	0	B
Thallium	-		-		-		-		-		-	
Total Petroleum Hydrocarbons	-		-		-		-		-		1	U
Vanadium	-		-		-		-		-		-	
Zinc	2	B	2	B	2	B	2	B	2	B	2	B
bis(2-Ethylhexyl)phthalate	13	B	2	B	5	U	5	U	5	U	7	B

Appendix N: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: MW2 MW3 MW4 MW1 MW2 MW3
SAMPLE ID: PC-TF4-MW2-GW3 PC-TF4-MW3-GW3 PC-TF4-MW4-GW3 PC-SF5-MW1-GW3 PC-SF5-MW2-GW3 PC-SF5-MW3-GW3
COLLECTION DATE: 10/14/91 10/14/91 10/14/91 10/15/91 10/15/91 10/15/91

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

Aluminum	mg/kg	0	B	0	B	0	B	64	(B)	110	(B)	91.70	(B)
Arsenic	mg/kg	-	-	-	-	-	-	10.60	-	5	U	5	U
Barium	mg/kg	1	-	1	-	1	-	34.40	0	9	0	9.20	0
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	ug/kg	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	mg/kg	90800	-	76500	-	56400	-	128000	-	35700	-	37800	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/kg	5	U	10	B	5	U	15	B	10	-	3	B
Iron	mg/kg	11	-	11	-	11	-	9640	-	21.70	0	27.10	0
Lead	mg/kg	-	-	-	-	-	-	2.20	(B)	2	UL	2	UL
Magnesium	mg/kg	35	U	9870	-	8910	U	11800	-	13300	-	11300	-
Manganese	mg/kg	1	-	1	-	1	-	519	-	2.30	0	1	U
Methylene Chloride	ug/kg	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	8	B	8	U	8	U	-	-	-	-	-	-
Pentachlorophenol	ug/kg	-	-	-	-	-	-	20	U	20	U	1	J
Potassium	mg/kg	730	-	730	-	730	-	2940	0	3510	0	4740	0
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/kg	0	J	0	-	0	J	1530	(B)	8080	(J)	1850	(B)
Thallium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons	mg/kg	1	U	1	U	1.90	-	1.60	-	1	U	1	U
Vanadium	mg/kg	-	-	-	-	-	-	7.60	0	6	U	6	U
Zinc	mg/kg	2	B	2	B	2	B	5.30	B	11.20	B	6.40	(B)
bis(2-Ethylhexyl)phthalate	ug/kg	3	B	4	B	6	B	2	B	1	B	5	U

Appendix N: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:
SAMPLE ID:
COLLECTION DATE:

MW4
PC-SF5-MW4-GW3
10/15/91

MW1
PC-LF6-MW1-GW3
10/15/91

MW2
PC-LF6-MW2-GW3
10/15/91

MW3
PC-LF6-MW3-GW3
10/14/91

MW1
PC-HN8-MW1-GW3
10/12/91

MW2
PC-HN8-MW2-GW3
10/14/91

UNITS:

QUAL

QUAL

QUAL

QUAL

QUAL

QUAL

QUAL

QUAL

QUAL

Aluminum	101	(B)	0	B	0	B	0	B	83.10	B	123	B
Arsenic	5	U	-	-	-	-	-	-	-	-	-	-
Barium	8.50	0	1	-	0	-	1	-	19.20	B	5.80	B
Beryllium	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	-	-	-	-	-	-	-	-	2	J	5	U
Calcium	33900	-	37000	-	50500	-	53400	-	69900	-	64300	-
Chromium	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-	-	-	-	-	-	-	-	-	-	-	-
Copper	-	-	-	-	-	-	-	-	14.90	B	6	U
Diethyl phthalate	5	B	-	-	-	-	-	-	0.80	J	5	U
Iron	27.10	0	11	B	0	B	11	-	18.60	B	16.30	B
Lead	2	UL	2	UL	0	UL	3.10	B	2	U	2	U
Magnesium	7970	-	11200	-	15000	-	14600	-	9820	-	8340	-
Manganese	4.30	0	1	-	23.60	-	43.30	-	1	U	1	U
Methylene Chloride	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	20	U	-	-	-	-	-	-	-	-	-	-
Potassium	3690	0	730	-	0	-	730	-	4570	B	1690	B
Selenium	-	-	-	-	-	-	-	-	-	-	-	-
Silver	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	4720	(I)	6880	J	7450	J	0	J	4090	B	4050	B
Thallium	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons	1	U	-	-	-	-	-	-	-	-	-	-
Vanadium	6	U	-	-	-	-	-	-	-	-	-	-
Zinc	9.10	(B)	2	B	0	B	2	B	6	B	30.30	J
bis(2-Ethylhexyl)phthalate	2	B	12	B	3	B	18	B	5	U	4	-

Appendix N: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: MW3 MW4 MW5 MW1 MW2 MW3
SAMPLE ID: PC-HN8-MW3-GW3 PC-HN8-MW4-GW3 PC-HN8-MW5-GW3 PC-RT9-MW1-GW3 PC-RT9-MW2-GW3 PC-RT9-MW3-GW3
COLLECTION DATE: 10/14/91 10/14/91 10/14/91 10/12/91 10/13/91 10/13/91

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

Aluminum	mg/kg	118	B	91.10	B	76.70	B	0	B	0	B	0	B
Arsenic	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/kg	23	B	6.40	B	26.80	B	1	B	1	B	1	B
Beryllium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	ug/kg	5	U	5	U	5	U	-	-	-	-	-	-
Calcium	mg/kg	126000	-	42900	-	136000	-	71900	-	77100	-	71800	-
Chromium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Copper	mg/kg	6	U	11.10	B	12.70	B	6	U	6	U	6	U
Diethyl phthalate	ug/kg	5	U	4	J	5	U	1	J	5	U	5	U
Iron	mg/kg	11	U	11	U	18.60	B	R	R	11	J	11	J
Lead	mg/kg	2	U	2	U	2.80	B	2	B	2	U	2	B
Magnesium	mg/kg	16000	-	6030	-	16900	-	9660	-	11300	-	7950	-
Manganese	mg/kg	1	B	1.30	B	1	U	1	U	1	U	1	U
Methylene Chloride	ug/kg	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/kg	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	mg/kg	6060	-	1790	-	7500	-	5150	-	730	-	730	-
Selenium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	mg/kg	61300	-	3020	-	64800	-	0	-	0	-	0	-
Thallium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/kg	19.40	B	5.90	B	4.80	B	2	B	2	B	2	B
bis(2-Ethylhexyl)phthalate	ug/kg	3	J	3	J	6	J	3	B	2	B	1	B

Appendix N: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: MW4 MW5
SAMPLE ID: PC-RT9-MW4-GW3 PC-RT9-MW5-GW3
COLLECTION DATE: 10/13/91 10/13/91

	UNITS:	RESULT	QUAL	RESULT	QUAL
Aluminum	mg/kg	0	B	0	B
Arsenic	mg/kg	-		-	
Barium	mg/kg	1		1	B
Beryllium	mg/kg	-		-	
Butylbenzylphthalate	ug/kg	-		-	
Calcium	mg/kg	71100		83500	
Chromium	mg/kg	-		-	
Cobalt	mg/kg	-		-	
Copper	mg/kg	6		6	
Diethyl phthalate	ug/kg	5		5	U
Iron	mg/kg	R	U	B	
Lead	mg/kg	2	U	2	B
Magnesium	mg/kg	9660		13800	
Manganese	mg/kg	1	U	1	
Methylene Chloride	ug/kg	-		-	
Nickel	mg/kg	-		-	
Pentachlorophenol	ug/kg	-		-	
Potassium	mg/kg	730		730	
Selenium	mg/kg	-		-	
Silver	mg/kg	-		-	
Sodium	mg/kg	0	J	7180	J
Thallium	mg/kg	-		-	
Total Petroleum Hydrocarbons	mg/kg	-		-	
Vanadium	mg/kg	2		2	B
Zinc	mg/kg	19	B	2	B
bis(2-Ethylhexyl)phthalate	ug/kg	-		-	

**Appendix O: Analytical Results; SI Fixed Base
Laboratory Data Summary**

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		MW1		MW1		SBI		SBI		MW1		MW1	
SAMPLE ID: PC-MP2-MW1-SS1-2.5		PC-MP2-MW1-SS2-10		PC-MP2-MW1-SS2-10		PC-MP2-SBI-SS1-5		PC-MP2-SBI-SS2-10		PC-CG3-MW1-SS1-2.5		PC-CG3-MW1-SS2-10	
COLLECTION DATE: 09/18/87		09/18/87		09/18/87		10/04/87		10/04/87		09/20/87		09/22/87	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
8010													
Tetrachloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	
Vinyl chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	
8020													
Benzene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	
Ethylbenzene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	
Toluene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	
Xylenes (TOTAL)	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	
625													
bis(2-Ethylhexyl)phthalate	-	-	-	-	-	-	-	-	-	-	-	-	
CLP METALS													
Arsenic, Dissolved	2.40		0.43		0.72		0.37		0.15		0.70		
Beryllium, Dissolved	0.08		0.15		0.09		0.11		0.08		0.21		
Cadmium, Dissolved	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	
Chromium, Dissolved	3.60		5.50		4.70		3.30		3.80		5.60		
Copper, Dissolved	0	ND	0.97		1.40		2		1.80		1.90		
Lead, Dissolved	1.70		4.10		1		1		1.50		2.80		
Nickel, Dissolved	2.60		2.70		4.30		2.70		3.10		3		
Selenium, Dissolved	0	ND	0.13		0	ND	0	ND	1.50		0	ND	
Zinc, Dissolved	5.80		6.90		4.30		6.60		4.20		4.20		
TPH													
Total Petroleum Hydrocarbons	42		140		8.20		14		10		17		

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SB1		SB10		SB10		SB10		SB2		SB2	
SAMPLE ID:		PC-CG3-SB1-SS1-10		PC-CG3-SB1-SS1-5		PC-CG3-SB10-SS1-5		PC-CG3-SB10-SS2-10		PC-CG3-SB2-SS1-5		PC-CG3-SB2-SS2-10	
COLLECTION DATE:		10/04/87		10/04/87		10/04/87		10/04/87		10/04/87		10/04/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Tetrachloroethylene	ug/kg	5	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Vinyl chloride													
8020	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Benzene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Ethylbenzene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Toluene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Xylenes (TOTAL)	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
625	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate													
CLP METALS	mg/kg	0.57	0.88	0.43	0.08	0.08	0.08	0.08	0.08	0.14	0.05	0.35	0.05
Arsenic, Dissolved	mg/kg	0.04	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.14	0.05	0.35	0.05
Beryllium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Cadmium, Dissolved	mg/kg	1.60	3.80	2.20	3.80	2.20	3.80	2.20	3.80	3.20	1.50	1.50	1.50
Chromium, Dissolved	mg/kg	2.20	3.60	0.97	1.40	0.97	1.40	0.97	1.40	4.90	2.10	2.10	2.10
Copper, Dissolved	mg/kg	0.59	1.20	1	2.40	1	2.40	1	2.40	0.76	0.60	0.60	0.60
Lead, Dissolved	mg/kg	2	3.30	2	2.80	2	2.80	2	2.80	3.10	2.30	2.30	2.30
Nickel, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Selenium, Dissolved	mg/kg	4.10	5.30	3.70	5.30	3.70	5.30	3.70	5.30	9.20	3.90	3.90	3.90
Zinc, Dissolved	mg/kg												
TPH	mg/kg	35	0	ND	8.30	22	8.30	22	8.30	12	35	12	35
Total Petroleum Hydrocarbons													

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SB3		SB3		SB4		SB4		SB5		SB5	
SAMPLE ID:		PC-CG3-SB3-SS1-5		PC-CG3-SB3-SS2-10		PC-CG3-SB4-SS1-5		PC-CG3-SB4-SS2-10		PC-CG3-SB5-SS1-5		PC-CG3-SB5-SS2-10	
COLLECTION DATE:		10/04/87		10/04/87		10/03/87		10/03/87		10/04/87		10/04/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	Tetrachloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Vinyl chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8070	Benzene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Ethylbenzene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Toluene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Xylenes (TOTAL)	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
625	bis(2-Ethylhexyl)phthalate	-	-	-	-	-	-	-	-	-	-	-	-
CLP METALS													
	Arsenic, Dissolved	0.64		0.59		0.47		0.53		0.46		0.67	
	Beryllium, Dissolved	0.09		0.06		0.07		0.06		0.07		0.04	
	Cadmium, Dissolved	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Chromium, Dissolved	2.60		1.50		1.40		1.90		1.60		0.94	
	Copper, Dissolved	3		4		2.30		2.60		2.30		1.70	
	Lead, Dissolved	1		13		0.94		1.10		0.90		0.39	
	Nickel, Dissolved	2.70		2.20		2.10		2.40		2.10		1.50	
	Selenium, Dissolved	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Zinc, Dissolved	4.60		4.30		3.70		5.70		4.10		13	
TPH	Total Petroleum Hydrocarbons	12		8.20		12		16		12		13	

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SB6		SB6		SB7		SB7		SB8		SB8	
SAMPLE ID:		PC-CG3-SB6-SS1-10		PC-CG3-SB6-SS2-15		PC-CG3-SB7-SS1-2		PC-CG3-SB7-SS2-5		PC-CG3-SB8-SS1-5		PC-CG3-SB8-SS2-15	
COLLECTION DATE:		10/03/87		10/03/87		10/03/87		10/03/87		10/04/87		10/04/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg												
Tetrachloroethylene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Vinyl chloride	ug/kg	0	ND	0	ND	7.20		0	ND	0	ND	0	ND
8020	ug/kg												
Benzene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Ethylbenzene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	310	
Toluene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	21	
Xylenes (TOTAL)	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	560	
625	mg/kg												
bis(2-Ethylhexyl)phthalate	mg/kg	-		-		-		-		-		-	
CLP METALS	mg/kg												
Arsenic, Dissolved	mg/kg	0.56		0.50		1		0.80		0.58		0.29	
Beryllium, Dissolved	mg/kg	0.05		0.06		0.10		0.09		0.10		0.06	
Cadmium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Chromium, Dissolved	mg/kg	1.80		2.30		2.50		2.50		2.90		1.80	
Copper, Dissolved	mg/kg	2.80		3		2.90		3.20		1.20		1.30	
Lead, Dissolved	mg/kg	0.93		0.59		0.93		0.96		1.10		0.94	
Nickel, Dissolved	mg/kg	1.90		1.80		2.40		2.30		2.60		1.90	
Selenium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Zinc, Dissolved	mg/kg	4.70		3.70		3.30		4.10		5		5.60	
TPH	mg/kg												
Total Petroleum Hydrocarbons	mg/kg	12		13		12		12		26		4600	

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SB9		SB9		MW1		MW1		SB1		SB1	
SAMPLE ID:		PC-CG3-SB9-SS1-5		PC-CG3-SB9-SS2-10		PC-TF4-MW1-SS1-5		PC-TF4-MW1-SS2-10		PC-TF4-SB1-SS1-2-6.5		PC-TF4-SB1-SS2-15-16.5	
COLLECTION DATE:		10/04/87		10/04/87		09/18/87		09/18/87		09/30/87		09/30/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	-	-
Tetrachloroethylene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	-	-
Vinyl chloride													
8020	ug/kg	0	ND	0	ND	0	ND	0	ND	230		-	-
Benzene	ug/kg	0	ND	0	ND	0	ND	0	ND	200		-	-
Ethylbenzene	ug/kg	0	ND	0	ND	0	ND	0	ND	500		-	-
Toluene	ug/kg	0	ND	0	ND	0	ND	0	ND	870		-	-
Xylenes (TOTAL)	ug/kg	0	ND	0	ND	0	ND	0	ND			-	-
625	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate													
CLP METALS													
Arsenic, Dissolved	mg/kg	0.60		1.20		0.51		0.36		0.79		-	-
Beryllium, Dissolved	mg/kg	0.05		0.12		0.03		0.05		0.30		-	-
Cadmium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0.10		-	-
Chromium, Dissolved	mg/kg	1.50		6.20		0.90		4.50		8.60		-	-
Copper, Dissolved	mg/kg	2		1.80		0.85		0.66		2.60		-	-
Lead, Dissolved	mg/kg	0.83		0	ND	6.20		1.20		5.50		-	-
Nickel, Dissolved	mg/kg	2		4.60		1.60		2.80		4.40		-	-
Selenium, Dissolved	mg/kg	0	ND	0	ND	0.40		0.31		0	ND	-	-
Zinc, Dissolved	mg/kg	6.20		6.60		6.20		5.60		17		-	-
TPH													
Total Petroleum Hydrocarbons	mg/kg	12		8.30		10		26		3700		-	-

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SB1 SB2 SB3 SB4
SAMPLE ID: PC-TF4-SB1-SS3-25-26.5 PC-TF4-SB2-SS1-1.5-3 PC-TF4-SB2-SS2-5-6.5 PC-TF4-SB3-SS1-1.5-3.0 PC-TF4-SB4-SS1-1-6.5
COLLECTION DATE: 09/30/87 09/22/87 09/22/87 09/30/87

UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg	-	0	ND	0	ND	-	-	0	ND	0
Tetrachloroethylene	ug/kg	-	0	ND	0	ND	-	-	0	ND	0
Vinyl chloride	ug/kg	-	0	ND	0	ND	-	-	0	ND	0
8020	ug/kg	-	0	ND	0	ND	-	-	0	ND	0
Benzene	ug/kg	-	8.20	0	0	ND	-	-	0	ND	0
Ethylbenzene	ug/kg	-	0	ND	0	ND	-	-	0	ND	0
Toluene	ug/kg	-	0	ND	0	ND	-	-	0	ND	0
Xylenes (TOTAL)	ug/kg	-	25	0	0	ND	-	-	0	ND	580
625	mg/kg	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
CLP METALS	mg/kg	-	0.96	0.13	0.13	0.13	-	-	1.20	0.95	0.95
Arsenic, Dissolved	mg/kg	-	0.21	0.12	0.12	0.12	-	-	0.11	0.11	0.11
Beryllium, Dissolved	mg/kg	-	0	ND	0	ND	-	-	0	0	0
Cadmium, Dissolved	mg/kg	-	6.40	5.40	5.40	5.40	-	-	3.60	2.50	2.50
Chromium, Dissolved	mg/kg	-	2	1.20	1.20	1.20	-	-	1.50	4.40	4.40
Copper, Dissolved	mg/kg	-	5.70	0.96	0.96	0.96	-	-	1.10	2.80	2.80
Lead, Dissolved	mg/kg	-	4.60	2.70	2.70	2.70	-	-	2.70	3.60	3.60
Nickel, Dissolved	mg/kg	-	0	ND	0	ND	-	-	0	0	0
Selenium, Dissolved	mg/kg	-	22	4.40	4.40	4.40	-	-	4.60	11	11
Zinc, Dissolved	mg/kg	-	-	-	-	-	-	-	-	-	-
TPH	mg/kg	-	200	43	43	43	-	-	220	410	410
Total Petroleum Hydrocarbons	mg/kg	-	-	-	-	-	-	-	-	-	-

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SB4 SB5 MW1 MW1 SB1 SB1
SAMPLE ID: PC-TF4-SB4-SS2-15-16.5 PC-TF4-SB5-SS1-0.4 PC-SF5-MW1-SS2-10 PC-SF5-SB1-SS1-2-3.5 PC-SF5-SB1-SS2-4-5.5
COLLECTION DATE: 09/30/87 11/13/87 09/16/87 09/16/87 09/21/87

UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg	-	0	ND	0	ND	0	ND	0	ND	0	ND	0
Tetrachloroethylene	ug/kg	-	0	ND	0	ND	0	ND	0	ND	0	ND	0
Vinyl chloride	ug/kg	-	0	ND	0	ND	0	ND	0	ND	0	ND	0
8020	ug/kg	-	0	ND	0	ND	37	ND	0	ND	0	ND	0
Benzene	ug/kg	-	0	ND	0	ND	0	ND	0	ND	0	ND	380
Ethylbenzene	ug/kg	-	0	ND	0	ND	0	ND	0	ND	0	ND	180
Toluene	ug/kg	-	0	ND	0	ND	0	ND	0	ND	0	ND	2000
Xylenes (TOTAL)	ug/kg	-	0	ND	0	ND	0	ND	0	ND	5.80	ND	2000
625	mg/kg	-	0	ND	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	mg/kg	-	0	ND	-	-	-	-	-	-	-	-	-
CLP METALS	mg/kg	-	0.53	ND	0.32	ND	0.67	ND	0.20	ND	0.20	ND	6.80
Arsenic, Dissolved	mg/kg	-	0.08	ND	0.26	ND	0.31	ND	0.50	ND	0.50	ND	0.31
Beryllium, Dissolved	mg/kg	-	0	ND	0	ND	0	ND	0	ND	0	ND	0
Cadmium, Dissolved	mg/kg	-	2.60	ND	6.10	ND	4.50	ND	12	ND	12	ND	9.90
Chromium, Dissolved	mg/kg	-	1	ND	2	ND	6.20	ND	3.10	ND	3.10	ND	5.80
Copper, Dissolved	mg/kg	-	1	ND	7.70	ND	5.50	ND	7	ND	7	ND	2.80
Lead, Dissolved	mg/kg	-	2.10	ND	3	ND	6.30	ND	6	ND	6	ND	6.40
Nickel, Dissolved	mg/kg	-	0	ND	0.23	ND	0.19	ND	0.63	ND	0.63	ND	0.10
Selenium, Dissolved	mg/kg	-	3.90	ND	5.60	ND	12	ND	8.50	ND	8.50	ND	11
Zinc, Dissolved	mg/kg	-	0	ND	28	ND	18	ND	130	ND	130	ND	83
TPH	mg/kg	-	0	ND	28	ND	18	ND	130	ND	130	ND	83
Total Petroleum Hydrocarbons	mg/kg	-	0	ND	28	ND	18	ND	130	ND	130	ND	83

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SB2		SB2		SB3		SB3		SB4		SB4	
SAMPLE ID:		PC-SF5-SB2-SS1-2-3.5		PC-SF5-SB2-SS2-4-5.5		PC-SF5-SB3-SS1-2-3.5		PC-SF5-SB3-SS2-4-5.5		PC-SF5-SB4-SS1-2		PC-SF5-SB4-SS2-5	
COLLECTION DATE:		09/21/87		09/21/87		09/21/87		09/21/87		10/19/87		10/19/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	Tetrachloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Vinyl chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020	Benzene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Ethylbenzene	0	ND	120		0	ND	0	ND	0	ND	0	ND
	Toluene	0	ND	960		0	ND	0	ND	0	ND	0	ND
	Xylenes (TOTAL)	0	ND	1700		0	ND	0	ND	0	ND	0	ND
625	bis(2-Ethylhexyl)phthalate	-		-		-		-		0	ND	0	ND
CLP METALS													
	Arsenic, Dissolved	0.91		1.10		0.43		0.98		1.60		0.76	
	Beryllium, Dissolved	0.50		0.37		0.27		0.08		0.11		0.07	
	Cadmium, Dissolved	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Chromium, Dissolved	12		11		6.30		2.50		3.90		2.70	
	Copper, Dissolved	5.20		5.60		1.30		1.10		0	ND	0.60	
	Lead, Dissolved	6.20		4.90		5.70		1.20		1.70		0.79	
	Nickel, Dissolved	7.50		6.10		3		1.90		2.60		1.80	
	Selenium, Dissolved	0	ND	0.12		0	ND	0	ND	1.70		0.79	
	Zinc, Dissolved	11		9.80		5.10		2.80		4		2.70	
TPH	Total Petroleum Hydrocarbons	11		580		76		75		15		10	

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		MW1	MW1	SBI	SBI	SBI	SBI	SBI
SAMPLE ID:		PC-LF6-MW1-SS1-2.5	PC-LF6-MW1-SS2-10	PC-LF6-SBI-SS1-2	PC-LF6-SBI-SS2-5	PC-LF6-SBI-SS1-0.5	PC-LF6-SBI-SS1-0.4	
COLLECTION DATE:		09/17/87	09/17/87	10/19/87	10/19/87	11/13/87	11/13/87	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010								
Tetrachloroethylene	ug/kg	0	ND	0	ND	0	ND	0
Vinyl chloride	ug/kg	0	ND	0	ND	0	ND	0
8020								
Benzene	ug/kg	0	ND	0	ND	0	ND	0
Ethylbenzene	ug/kg	0	ND	0	ND	0	ND	0
Toluene	ug/kg	0	ND	0	ND	0	ND	0
Xylenes (TOTAL)	ug/kg	0	ND	0	ND	0	ND	0
625								
bis(2-Ethylhexyl)phthalate	mg/kg	1.60	0	0	ND	0	ND	0
CLP METALS								
Arsenic, Dissolved	mg/kg	1.30	1.50	0.90	0.90	1.20	0.92	
Beryllium, Dissolved	mg/kg	0.24	0.27	0.09	0.09	0.12	0.28	
Cadmium, Dissolved	mg/kg	0	ND	0	ND	0	0	ND
Chromium, Dissolved	mg/kg	3.60	4.80	4.20	4.30	3.60	8.60	
Copper, Dissolved	mg/kg	0.78	1.30	1.40	0.66	0	17	
Lead, Dissolved	mg/kg	4.30	5.30	9	1.80	0.50	31	
Nickel, Dissolved	mg/kg	2.40	1.90	1.60	1.90	2.70	4.70	
Selenium, Dissolved	mg/kg	2	1.50	9	1.80	0	0	ND
Zinc, Dissolved	mg/kg	3.10	3.90	15	3.80	3	93	
TPH								
Total Petroleum Hydrocarbons	mg/kg	21	24	40	19	20	55	

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SB4	SB5	SB6	SB1	SB1	SB2
SAMPLE ID:		PC-LF6-SB4-SS1-0-5	PC-LF6-SB5-SS1-0-2	PC-LF6-SB6-SS1-8-9	PC-FF7-SB1-SS1-1-2.5	PC-FF7-SB1-SS2-5-6.5	PC-FF7-SB2-SS1-1-2.5
COLLECTION DATE:		11/13/87	11/13/87	11/13/87	09/21/87	09/21/87	09/21/87
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010							
Tetrachloroethylene	ug/kg	0	ND	0	ND	0	ND
Vinyl chloride	ug/kg	0	ND	0	ND	0	ND
8020							
Benzene	ug/kg	0	ND	0	ND	0	ND
Ethylbenzene	ug/kg	0	ND	0	ND	0	ND
Toluene	ug/kg	0	ND	0	ND	0	ND
Xylenes (TOTAL)	ug/kg	0	ND	0	ND	0	ND
625							
bis(2-Ethylhexyl)phthalate	mg/kg	0	ND	0	ND	0	ND
CLP METALS							
Arsenic, Dissolved	mg/kg	0.46		1.50	1.80	0.12	0.38
Beryllium, Dissolved	mg/kg	0.06		0.36	0.25	0.29	0.23
Cadmium, Dissolved	mg/kg	0	ND	0	ND	0	ND
Chromium, Dissolved	mg/kg	2.10		10.40	5.10	10	5.30
Copper, Dissolved	mg/kg	0.81		2.70	0.91	4.40	1.50
Lead, Dissolved	mg/kg	0.21		4.60	4.30	3.40	8
Nickel, Dissolved	mg/kg	1.80		5.30	2.60	5.50	2.30
Selenium, Dissolved	mg/kg	0	ND	0	ND	0	ND
Zinc, Dissolved	mg/kg	2.90		12	3.60	11	8.10
TPH							
Total Petroleum Hydrocarbons	mg/kg	0	ND	0	ND	31	20

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SB2 SB3 SB4 SB4 MW1
SAMPLE ID: PC-FF7-SB2-SS2-5-6-5 PC-FF7-SB3-SS1-4-5-5 PC-FF7-SB3-SS2-8-9-5 PC-FF7-SB4-SS1-0-5-2 PC-FF7-SB4-SS2-10-11-5 PC-HN8-MW1-SS1-2-5-5
COLLECTION DATE: 09/21/87 09/21/87 09/21/87 09/22/87 09/19/87

UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Tetrachloroethylene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Vinyl chloride	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
8020	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Benzene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Ethylbenzene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Toluene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Xylenes (TOTAL)	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
625	mg/kg	0	ND	0	ND	0	ND	-	-	-	-
bis(2-Ethylhexyl)phthalate	mg/kg	0	ND	0	ND	0	ND	-	-	-	-
CLP METALS	mg/kg	1.80	ND	1.40	ND	0.13	ND	0.16	ND	1.30	ND
Arsenic, Dissolved	mg/kg	0.33	ND	0.09	ND	0.06	ND	0.29	ND	0.15	ND
Beryllium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Cadmium, Dissolved	mg/kg	5.60	ND	4.40	ND	2.90	ND	9.30	ND	11	ND
Chromium, Dissolved	mg/kg	2.50	ND	1.30	ND	0.83	ND	5.40	ND	1	ND
Copper, Dissolved	mg/kg	6	ND	4.80	ND	1.50	ND	2.80	ND	1.50	ND
Lead, Dissolved	mg/kg	3	ND	2.10	ND	1.80	ND	6.80	ND	3.90	ND
Nickel, Dissolved	mg/kg	0	ND	4.80	ND	0	ND	0	ND	0	ND
Selenium, Dissolved	mg/kg	4.80	ND	6.30	ND	3.70	ND	13	ND	8.60	ND
Zinc, Dissolved	mg/kg	4.80	ND	6.30	ND	3.70	ND	13	ND	8.60	ND
TPH	mg/kg	5.10	ND	16	ND	10	ND	10	ND	15	ND
Total Petroleum Hydrocarbons	mg/kg	5.10	ND	16	ND	10	ND	10	ND	15	ND

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: MW1
SAMPLE ID: PC-HN8-MW1-SS2-10
COLLECTION DATE: 09/19/87

SB1
PC-HN8-SB1-SS1-4
10/05/87

SB1
PC-HN8-SB1-SS2-8
10/05/87

SB1
PC-HN8-SB1-SS3-14
10/05/87

MW1
PC-RT9-MW1-SS2-10
09/19/87

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

8010	Tetrachloroethylene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
	Vinyl chloride	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
8020	Benzene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
	Ethylbenzene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
	Toluene	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
	Xylenes (TOTAL)	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
625	bis(2-Ethylhexyl)phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-
CLP METALS												
	Arsenic, Dissolved	mg/kg	0	ND	1.20	0.14	1.30	0	0.25	0	0.25	0
	Beryllium, Dissolved	mg/kg	0.08	0.11	0.22	0.08	0.30	0	0	0	0	0
	Cadmium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND
	Chromium, Dissolved	mg/kg	4	5.80	5	2.30	7.40	0	8.10	0	8.10	0
	Copper, Dissolved	mg/kg	1.30	2.20	2.10	2.10	1.40	0	1.80	0	1.80	0
	Lead, Dissolved	mg/kg	0.62	1.50	1.80	2.30	6	15	4	4	4	4
	Nickel, Dissolved	mg/kg	2.40	4.30	3	2.50	3.40	0	0.53	0	0.53	0
	Selenium, Dissolved	mg/kg	0	ND	0	ND	0	0	0.53	0	0.53	0
	Zinc, Dissolved	mg/kg	3.70	13	6.60	64	7.70	0	5.40	0	5.40	0
TPH												
	Total Petroleum Hydrocarbons	mg/kg	15	16	8.30	8.20	20	20	20	20	20	20

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SB1 SB2 SB3 SB3
SAMPLE ID: PC-RT9-SB1-SS1-2-3.5 PC-RT9-SB1-SS2-5-11.5 PC-RT9-SB2-SS1-1-2.5 PC-RT9-SB2-SS2-5-6.5 PC-RT9-SB3-SS1-2-3.5 PC-RT9-SB3-SS2-5-6.5
COLLECTION DATE: 09/22/87 09/22/87 09/22/87 09/22/87 09/22/87 09/22/87

UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
Tetrachloroethylene	ug/kg	0	ND	-	0	ND	0	ND	0	ND	0	ND
Vinyl chloride	ug/kg	0	ND	-	0	ND	0	ND	0	ND	0	ND
8020												
Benzene	ug/kg	0	ND	-	0	ND	0	ND	0	ND	0	ND
Ethylbenzene	ug/kg	0	ND	-	0	ND	0	ND	0	ND	0	ND
Toluene	ug/kg	0	ND	-	0	ND	0	ND	0	ND	0	ND
Xylenes (TOTAL)	ug/kg	0	ND	-	0	ND	0	ND	0	ND	0	ND
625												
bis(2-Ethylhexyl)phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-
CLP METALS												
Arsenic, Dissolved	mg/kg	1.70		-	1.20		0.73		1.40		1.30	
Beryllium, Dissolved	mg/kg	0.13		-	0.16		0.11		0.19		0.20	
Cadmium, Dissolved	mg/kg	0	ND	-	0	ND	0	ND	0	ND	0	ND
Chromium, Dissolved	mg/kg	6.30		-	7		4		3.90		4	
Copper, Dissolved	mg/kg	1.50		-	0.92		1.50		1.10		2.10	
Lead, Dissolved	mg/kg	1.70		-	1.40		0.90		1.70		1.10	
Nickel, Dissolved	mg/kg	3.60		-	4		3		2.60		2.70	
Selenium, Dissolved	mg/kg	0	ND	-	0	ND	0	ND	0	ND	0	ND
Zinc, Dissolved	mg/kg	6.70		-	7.70		5.70		5.10		5.90	
TPH												
Total Petroleum Hydrocarbons	mg/kg	19		-	5.20		9.70		0	ND	0	ND

Appendix O: Soil Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SB4	SB4	SB5	SB5	SB6	SB6
SAMPLE ID:		PC-RT9-SB4-SS1-2-6.5	PC-RT9-SB4-SS2-10-11.5	PC-RT9-SB5-SS1-2-3.5	PC-RT9-SB5-SS2-5-6.5	PC-RT9-SB6-SS1-2-3.5	PC-RT9-SB6-SS2-5-6.5
COLLECTION DATE:		09/23/87	09/33/87	09/23/87	09/23/87	09/23/87	09/23/87
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010							
Tetrachloroethylene	ug/kg	27		0	ND	0	ND
Vinyl chloride	ug/kg	0	ND	0	ND	0	ND
8020							
Benzene	ug/kg	0	ND	0	ND	0	ND
Ethylbenzene	ug/kg	0	ND	0	ND	0	ND
Toluene	ug/kg	0	ND	0	ND	0	ND
Xylenes (TOTAL)	ug/kg	0	ND	0	ND	0	ND
625							
bis(2-Ethylhexyl)phthalate	mg/kg	-		-		-	
CLP METALS							
Arsenic, Dissolved	mg/kg	0.12		1.10		1.60	1.80
Beryllium, Dissolved	mg/kg	0.19		0.26		0.20	0.24
Cadmium, Dissolved	mg/kg	0.53		0	ND	0	0
Chromium, Dissolved	mg/kg	4.20		7		6.30	6.40
Copper, Dissolved	mg/kg	2.20		10		1	1
Lead, Dissolved	mg/kg	8.80		2		1.70	2.10
Nickel, Dissolved	mg/kg	3		5.10		3.40	2.70
Selenium, Dissolved	mg/kg	0	ND	2		1.10	0
Zinc, Dissolved	mg/kg	15		4.90		4.60	5.90
TPH							
Total Petroleum Hydrocarbons	mg/kg	19		5		10	10

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		MW1		MW1		MW2		MW2		MW3		MW3	
SAMPLE ID:		PC-MP2-MW1-GW1		PC-MP2-MW1-GW2		PC-MP2-MW2-GW1		PC-MP2-MW2-GW2		PC-MP2-MW3-GW1		PC-MP2-MW3-GW2	
COLLECTION DATE:		11/05/87		08/14/88		11/09/87		08/15/88		11/09/87		08/16/88	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	1,2-Dichloroethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	1,2-trans-Dichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Benzene	-		0	ND	-		0	ND	-		0	ND
	Bromodichloromethane	3.70		0	ND	0	ND	0	ND	0	ND	0	ND
	Chloroform	4.60		0	ND	0	ND	0	ND	0	ND	0	ND
	Ethylbenzene	-		0	ND	-		0	ND	-		0	ND
	Methyl chloride	5.40		0	ND	5.50		0	ND	6		0	ND
	Methylene chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Tetrachloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Toluene	-		0	ND	-		0	ND	-		0	ND
	Trichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020	Benzene	0	ND	-		0	ND	-		0	ND	-	
	Toluene	0	ND	-		0	ND	-		0	ND	-	
625	bis(2-Ethylhexyl)phthalate	-		-		-		-		-		-	
CLP METALS													
	Arsenic, Dissolved	0	ND	-		0	ND	-		0	ND	-	
	Beryllium, Dissolved	0	ND	-		0	ND	-		0	ND	-	
	Copper, Dissolved	0	ND	-		0	ND	-		0	ND	-	
	Potassium	-		-		-		-		-		-	
	Potassium, Dissolved	0.83		-		1.10		-		2.20		-	
	Sodium	-		-		-		-		-		-	
	Sodium, Dissolved	12		-		3		-		3.60		-	
	Zinc, Dissolved	0	ND	-		0	ND	-		0	ND	-	
TPH	Total Petroleum Hydrocarbons	0.22		0	ND	0	ND	0	ND	0	ND	0	ND
E160.1	Total Dissolved Solids	330		240		210		130		260		260	
E300.1	Chloride	40		-		0.76		-		16.20		-	
	Fluoride	0	ND	-		0	ND	-		0	ND	-	
	Nitrate Nitrogen	0.75		-		0.49		-		2.10		-	
	Nitrite Nitrogen	0	ND	-		0	ND	-		0	ND	-	
	Sulfate	60		-		4.40		-		8.40		-	
	ortho-Phosphate	0	ND	-		0	ND	-		0	ND	-	

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: MW4 MW4 MW5 MW5 MW1 MW1
SAMPLE ID: PC-MP2-MW4-GW1 PC-MP2-MW4-GW2 PC-MP2-MW5-GW1 PC-MP2-MW5-GW2 PC-CG3-MW1-GW1 PC-CG3-MW1-GW2
COLLECTION DATE: 11/10/87 08/15/88 11/09/87 08/15/88 11/05/87 08/14/88

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

8010	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
1,2-Dichloroethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
1,2-trans-Dichloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Benzene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Bromodichloromethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Chloroform	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Ethylbenzene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Methyl chloride	ug/l	5.70	ND	0	ND	4.30	ND	0	ND	5.50	ND	0	ND
Methylene chloride	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Tetrachloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Toluene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Trichloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Benzene	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Toluene	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
625	ug/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
bis(2-Ethylhexyl)phthalate	ug/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
CLP METALS	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Arsenic, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Beryllium, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Copper, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Potassium	mg/l	1.20	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Potassium, Dissolved	mg/l	-	ND	-	ND	1.70	ND	-	ND	-	ND	-	ND
Sodium	mg/l	3	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Sodium, Dissolved	mg/l	-	ND	-	ND	790	ND	-	ND	-	ND	-	ND
Zinc, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
TPH	mg/l	460	ND	1.10	ND	0	ND	0	ND	0.22	ND	0	ND
Total Petroleum Hydrocarbons	mg/l	460	ND	1.10	ND	0	ND	0	ND	0.22	ND	0	ND
E160.1	mg/l	200	ND	220	ND	1800	ND	780	ND	210	ND	200	ND
Total Dissolved Solids	mg/l	200	ND	220	ND	1800	ND	780	ND	210	ND	200	ND
E300.1	mg/l	6	ND	-	ND	960	ND	-	ND	16	ND	-	ND
Chloride	mg/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Fluoride	mg/l	1.80	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Nitrate Nitrogen	mg/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Nitrite Nitrogen	mg/l	12	ND	-	ND	70	ND	-	ND	24	ND	-	ND
Sulfate	mg/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
ortho-Phosphate	mg/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		MW2		MW2		MW3		MW3		MW4		MW4	
SAMPLE ID:		PC-CG3-MW2-GW1		PC-CG3-MW2-GW2		PC-CG3-MW3-GW1		PC-CG3-MW3-GW2		PC-CG3-MW4-GW1		PC-CG3-MW4-GW2	
COLLECTION DATE:		11/09/87		08/17/88		11/09/87		08/17/88		11/09/87		08/18/88	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	1,2-Dichloroethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	1,2-trans-Dichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Benzene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
	Bromodichloromethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Chloroform	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Ethylbenzene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
	Methyl chloride	1.90	ND	0	ND	4.60	ND	0	ND	0	ND	0	ND
	Methylene chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Tetrachloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Toluene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
	Trichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020	Benzene	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Toluene	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
625	bis(2-Ethylhexyl)phthalate	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
CLP METALS													
	Arsenic, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Beryllium, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Copper, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Potassium	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Potassium, Dissolved	3.70	ND	-	ND	1.20	ND	-	ND	1.40	ND	-	ND
	Sodium	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Sodium, Dissolved	5.80	ND	-	ND	3.90	ND	-	ND	2.70	ND	-	ND
	Zinc, Dissolved	0	ND	-	ND	0	ND	-	ND	4	ND	-	ND
TPH	Total Petroleum Hydrocarbons	0	ND	0	ND	0	ND	1	ND	0	ND	0	ND
E160.1	Total Dissolved Solids	340	ND	570	ND	240	ND	260	ND	270	ND	280	ND
E300.1	Chloride	17	ND	-	ND	22	ND	-	ND	7.40	ND	-	ND
	Fluoride	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Nitrate Nitrogen	0.81	ND	-	ND	0.58	ND	-	ND	1	ND	-	ND
	Nitrite Nitrogen	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Sulfate	37	ND	-	ND	11	ND	-	ND	16	ND	-	ND
	ortho-Phosphate	0	ND	-	ND	0.22	ND	-	ND	0.07	ND	-	ND

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: MW5 MW5 MW1 MW1 MW2 MW2
SAMPLE ID: PC-CG3-MW5-GW1 PC-CG3-MW5-GW2 PC-TF4-MW1-GW1 PC-TF4-MW1-GW2 PC-TF4-MW2-GW1 PC-TF4-MW2-GW2
COLLECTION DATE: 11/10/87 08/18/88 11/05/87 08/17/88 11/06/87 08/17/88

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

8010	1,2-Dichloroethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	1,2-trans-Dichloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Benzene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
	Bromodichloromethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Chloroform	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Ethylbenzene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
	Methyl chloride	ug/l	6.40	ND	0	ND	1.10	ND	0	ND	0	ND	0	ND
	Methylene chloride	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Tetrachloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Toluene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
	Trichloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020	Benzene	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Toluene	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
625	bis(2-Ethylhexyl)phthalate	ug/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
CLP METALS	Arsenic, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Beryllium, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Copper, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
	Potassium	mg/l	0.52	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Potassium, Dissolved	mg/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Sodium	mg/l	1.70	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Sodium, Dissolved	mg/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Zinc, Dissolved	ug/l	13	ND	-	ND	0	ND	-	ND	0	ND	-	ND
TPH	Total Petroleum Hydrocarbons	mg/l	180	ND	0	ND	0	ND	0	ND	0	ND	0	ND
E160.1	Total Dissolved Solids	mg/l	310	ND	140	ND	344	ND	210	ND	320	ND	390	ND
E300.1	Chloride	mg/l	1.10	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Fluoride	mg/l	0	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Nitrate Nitrogen	mg/l	0.58	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Nitrite Nitrogen	mg/l	0	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Sulfate	mg/l	11	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	ortho-Phosphate	mg/l	0	ND	-	ND	-	ND	-	ND	-	ND	-	ND

0-19

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW2 PC-SF5-MW2-GW1 11/05/87		MW2 PC-SF5-MW2-GW2		MW3 PC-SF5-MW3-GW1 11/06/87		MW3 PC-SF5-MW3-GW2 08/21/88		MW4 PC-SF5-MW4-GW1 11/06/87		MW4 PC-SF5-MW4-GW2 08/21/88	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,2-Dichloroethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
1,2-trans-Dichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Benzene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Bromodichloromethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Chloroform	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Ethylbenzene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Methyl chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Methylene chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Tetrachloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Toluene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Trichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020												
Benzene	0	ND	-	ND	0	ND	-	ND	38	ND	-	ND
Toluene	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
625												
bis(2-Ethylhexyl)phthalate	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
CLP METALS												
Arsenic, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Beryllium, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Copper, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Potassium	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Potassium, Dissolved	1.70	ND	-	ND	1.60	ND	-	ND	0.62	ND	-	ND
Sodium	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Sodium, Dissolved	12	ND	-	ND	4.90	ND	-	ND	2.30	ND	-	ND
Zinc, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
TPH												
Total Petroleum Hydrocarbons	0.77	ND	0	ND	0.42	ND	0	ND	0.34	ND	0	ND
E160.1												
Total Dissolved Solids	780	ND	-	ND	292	ND	360	ND	250	ND	91	ND
E300.1												
Chloride	380	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Fluoride	0.39	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Nitrate Nitrogen	0	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Nitrite Nitrogen	0	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Sulfate	160	ND	-	ND	-	ND	-	ND	-	ND	-	ND
ortho-Phosphate	0	ND	-	ND	-	ND	-	ND	-	ND	-	ND

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	1		2		3		4		5		6		7		8		9			
	MW5	PC-SF5-MW5-GW1	MW5	PC-SF5-MW5-GW2	MW6	PC-SF5-MW6-GW2	MW1	PC-LF6-MW1-GW1	MW1	PC-LF6-MW1-GW2	MW2	PC-LF6-MW2-GW1	UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
	11/05/87	11/05/87	08/21/88	08/21/88	08/21/88	08/21/88	11/10/87	11/10/87	08/14/88	08/14/88	11/10/87	11/10/87								
8010																				
1,1,2-Dichloroethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	ug/l	0	ND	0	ND	0	ND
1,2-trans-Dichloroethylene	ug/l	0	ND	20	ND	0	ND	0	ND	0	ND	0	ND	ug/l	0	ND	0	ND	0	ND
Benzene	ug/l	-	170	0	ND	0	ND	-	ND	0	ND	-	ND	ug/l	0	ND	0	ND	-	ND
Bromodichloromethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	ug/l	0	ND	0	ND	0	ND
Chloroform	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	ug/l	0	ND	0	ND	0	ND
Ethylbenzene	ug/l	-	36	0	ND	0	ND	-	ND	-	ND	-	ND	ug/l	5.10	ND	0	ND	-	ND
Methyl chloride	ug/l	0	ND	0	ND	0	ND	2.40	ND	0	ND	2.50	ND	ug/l	0	ND	0	ND	0	ND
Methylene chloride	ug/l	0	ND	0	ND	7.50	ND	0	ND	0	ND	0	ND	ug/l	0	ND	0	ND	0	ND
Tetrachloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	ug/l	0	ND	0	ND	0	ND
Toluene	ug/l	-	120	0	ND	0	ND	-	ND	-	ND	-	ND	ug/l	0	ND	0	ND	-	ND
Trichloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND	ug/l	0	ND	0	ND	0	ND
8020																				
Benzene	ug/l	0	ND	-	-	-	0	ND	-	-	0	0	ND	ug/l	-	ND	-	ND	0	ND
Toluene	ug/l	0	ND	-	-	-	0	ND	-	-	0	0	ND	ug/l	-	ND	-	ND	0	ND
625																				
bis(2-Ethylhexyl)phthalate	ug/l	-	-	-	-	-	0	ND	-	-	0	0	ND	ug/l	-	ND	-	ND	0	ND
CLP METALS																				
Arsenic, Dissolved	ug/l	0	ND	-	-	-	0	ND	-	-	0	0	ND	ug/l	-	ND	-	ND	0	ND
Beryllium, Dissolved	ug/l	0	ND	-	-	-	0	ND	-	-	0	0	ND	ug/l	-	ND	-	ND	0	ND
Copper, Dissolved	ug/l	0	ND	-	-	-	0	ND	-	-	0	0	ND	ug/l	-	ND	-	ND	0	ND
Potassium	mg/l	-	-	-	-	-	-	-	-	-	-	-	-	mg/l	-	-	-	-	-	-
Potassium, Dissolved	mg/l	1.80	-	-	-	-	-	-	-	-	-	-	-	mg/l	-	-	-	-	-	-
Sodium	mg/l	-	-	-	-	-	-	-	-	-	-	-	-	mg/l	-	-	-	-	-	-
Sodium, Dissolved	mg/l	12	-	-	-	-	-	-	-	-	-	-	-	mg/l	-	-	-	-	-	-
Zinc, Dissolved	ug/l	0	ND	-	-	-	3	-	-	-	2	-	-	ug/l	-	-	-	-	2	-
TPH																				
Total Petroleum Hydrocarbons	mg/l	0.50	0	0	ND	0	200	ND	0	ND	130	0	ND	mg/l	0	ND	0	ND	130	0
E160.1																				
Total Dissolved Solids	mg/l	830	480	220	210	220	210	170	220	220	220	220	220	mg/l	170	220	220	220	220	220
E300.1																				
Chloride	mg/l	420	-	-	-	-	1.40	ND	-	-	2	0	ND	mg/l	-	ND	-	ND	2	0
Fluoride	mg/l	0.42	-	-	-	-	0	ND	-	-	0	0	ND	mg/l	-	ND	-	ND	0	0
Nitrate Nitrogen	mg/l	0	ND	-	-	-	0	ND	-	-	0	0	ND	mg/l	-	ND	-	ND	0	0
Nitrite Nitrogen	mg/l	0	ND	-	-	-	0	ND	-	-	0	0	ND	mg/l	-	ND	-	ND	0	0
Sulfate	mg/l	190	-	-	-	-	37	-	-	-	37	37	-	mg/l	-	-	-	-	37	37
ortho-Phosphate	mg/l	0	ND	-	-	-	0.06	-	-	-	0	0	-	mg/l	-	-	-	-	0	0

- 1) duplicate of SF5-MW5-GW1
- 2) duplicate of SF5-MW4-GW2

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: MW2 MW3 MW4 MW5
SAMPLE ID: PC-LF6-MW2-GW2 PC-LF6-MW3-GW1 PC-LF6-MW4-GW1 PC-LF6-MW4-GW2 PC-LF6-MW5-GW1
COLLECTION DATE: 08/21/88 11/10/87 11/09/87 08/21/88 11/10/87

UNITS: RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL RESULT QUAL

8010	1,2-Dichloroethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	1,2-trans-Dichloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Benzene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Bromodichloromethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Chloroform	ug/l	14	ND	6.30	ND	0	ND	5.70	ND	0	ND
	Ethylbenzene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Methyl chloride	ug/l	3.80	ND	0	ND	5	ND	0	ND	2.40	ND
	Methylene chloride	ug/l	0	ND	5.40	ND	0	ND	0	ND	0	ND
	Tetrachloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Toluene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Trichloroethylene	ug/l	12	ND	12	ND	0	ND	11	ND	0	ND
8020	Benzene	ug/l	7.40	ND	0	ND	0	ND	0	ND	0	ND
	Toluene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
625	bis(2-Ethylhexyl)phthalate	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
CLP METALS	Arsenic, Dissolved	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Beryllium, Dissolved	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Copper, Dissolved	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Potassium	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Potassium, Dissolved	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Sodium	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Sodium, Dissolved	mg/l	0	ND	0	ND	0.04	ND	0	ND	0	ND
	Zinc, Dissolved	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND
TPH	Total Petroleum Hydrocarbons	mg/l	41	ND	0	ND	0	ND	1.20	ND	33	ND
E160.1	Total Dissolved Solids	mg/l	190	ND	230	ND	1	ND	230	ND	0	ND
E300.1	Chloride	mg/l	6.50	ND	0	ND	0	ND	0	ND	0.13	ND
	Fluoride	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Nitrate Nitrogen	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND
	Nitrite Nitrogen	mg/l	33	ND	0	ND	0	ND	0	ND	0	ND
	Sulfate	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND
	ortho-Phosphate	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND

1) duplicate of LF6-MW3-GW1

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW1 PC-HN8-MW1-GW1 11/05/87		MW1 PC-HN8-MW1-GW2 08/18/88		MW2 PC-HN8-MW2-GW1 11/07/87		MW2 PC-HN8-MW2-GW2 08/19/88		MW3 PC-HN8-MW3-GW1 11/07/87		MW3 PC-HN8-MW3-GW2 08/19/88		
	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	
UNITS:													
8010													
1,2-Dichloroethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
1,2-trans-Dichloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Benzene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Bromodichloromethane	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Chloroform	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Ethylbenzene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Methyl chloride	ug/l	4	ND	0	ND	3.80	ND	0	ND	4.60	ND	0	ND
Methylene chloride	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Tetrachloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	3.80	ND	0	ND
Toluene	ug/l	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Trichloroethylene	ug/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020													
Benzene	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Toluene	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
625													
bis(2-Ethylhexyl)phthalate	ug/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
CLP METALS													
Arsenic, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Beryllium, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Copper, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Potassium	mg/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Potassium, Dissolved	mg/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Sodium	mg/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Sodium, Dissolved	mg/l	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Zinc, Dissolved	ug/l	0	ND	-	ND	0	ND	-	ND	18	ND	-	ND
TPH													
Total Petroleum Hydrocarbons	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
E160.1													
Total Dissolved Solids	mg/l	284		340		270		280		330		220	
E300.1													
Chloride	mg/l	-		-		23		-		27		-	
Fluoride	mg/l	-		-		0		-		0		-	
Nitrate Nitrogen	mg/l	-		-		1.10		-		3.20		-	
Nitrite Nitrogen	mg/l	-		-		0		-		0		-	
Sulfate	mg/l	-		-		10		-		14		-	
ortho-Phosphate	mg/l	-		-		0		-		1.20		-	

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	MW4		MW4		MW5		MW5		MW1		MW1	
	PC-HN8-MW4-GW1	11/07/87	PC-HN8-MW4-GW2	08/19/88	PC-HN8-MW5-GW1	11/07/87	PC-HN8-MW5-GW2	08/19/88	PC-RT9-MW1-GW1	11/05/87	PC-RT9-MW1-GW2	08/15/88
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
1,2-Dichloroethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
1,2-trans-Dichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Benzene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Bromodichloromethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Chloroform	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Ethylbenzene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Methyl chloride	3.30	ND	0	ND	5.10	ND	0	ND	1.80	ND	0	ND
Methylene chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Tetrachloroethylene	0	ND	0	ND	0	ND	0	ND	1.40	ND	0	ND
Toluene	-	ND	0	ND	-	ND	0	ND	-	ND	0	ND
Trichloroethylene	0	ND	0	ND	0	ND	0	ND	5.80	ND	0	ND
8020												
Benzene	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Toluene	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
625												
bis(2-Ethylhexyl)phthalate	-	ND	-	ND	0	ND	-	ND	-	ND	-	ND
CLP METALS												
Arsenic, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Beryllium, Dissolved	0	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Copper, Dissolved	17	ND	-	ND	0	ND	-	ND	0	ND	-	ND
Potassium	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Potassium, Dissolved	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Sodium	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Sodium, Dissolved	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
Zinc, Dissolved	22	ND	-	ND	0	ND	-	ND	0	ND	-	ND
TPH												
Total Petroleum Hydrocarbons	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
E160.1												
Total Dissolved Solids	180	ND	190	ND	0	ND	220	ND	184	ND	270	ND
E300.1												
Chloride	3.50	ND	-	ND	0.12	ND	-	ND	-	ND	-	ND
Fluoride	0	ND	-	ND	0.13	ND	-	ND	-	ND	-	ND
Nitrate Nitrogen	1.40	ND	-	ND	0	ND	-	ND	-	ND	-	ND
Nitrite Nitrogen	0	ND	-	ND	0	ND	-	ND	-	ND	-	ND
Sulfate	9.40	ND	-	ND	0	ND	-	ND	-	ND	-	ND
ortho-Phosphate	0.06	ND	-	ND	0	ND	-	ND	-	ND	-	ND

1) duplicate of HN8-MW5-GW1

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		MW2		MW2		MW3		MW3		MW4		MW4	
SAMPLE ID:		PC-RT9-MW2-GW1		PC-RT9-MW2-GW2		PC-RT9-MW3-GW1		PC-RT9-MW3-GW2		PC-RT9-MW4-GW1		PC-RT9-MW4-GW2	
COLLECTION DATE:		11/11/87		08/19/88		11/11/87		08/19/88		11/11/87			
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010													
1,2-Dichloroethane		0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
1,2-trans-Dichloroethylene		0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Benzene		-		0	ND	-		0	ND	-		0	ND
Bromodichloromethane		0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Chloroform		0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Ethylbenzene		-		0	ND	-		0	ND	-		0	ND
Methyl chloride		0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Methylene chloride		0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Tetrachloroethylene		0	ND	0	ND	0	ND	0	ND	12		0	ND
Toluene		-		0	ND	-		0	ND	-		0	ND
Trichloroethylene		0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020													
Benzene		0	ND	-		0	ND	-		0	ND	-	
Toluene		0	ND	-		0	ND	-		0	ND	-	
625													
bis(2-Ethylhexyl)phthalate		-		-		-		-		-		-	
CLP METALS													
Arsenic, Dissolved		0	ND	-		0	ND	-		0	ND	-	
Beryllium, Dissolved		0	ND	-		0	ND	-		0	ND	-	
Copper, Dissolved		0	ND	-		0	ND	-		0	ND	-	
Potassium		-		-		-		-		-		-	
Potassium, Dissolved		-		-		-		-		-		-	
Sodium		-		-		-		-		-		-	
Sodium, Dissolved		-		-		-		-		-		-	
Zinc, Dissolved		0	ND	-		0	ND	-		0	ND	-	
TPH													
Total Petroleum Hydrocarbons		0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
E160.1													
Total Dissolved Solids		280		300		280		490		684		-	
E300.1													
Chloride		-		-		-		-		-		-	
Fluoride		-		-		-		-		-		-	
Nitrate Nitrogen		-		-		-		-		-		-	
Nitrite Nitrogen		-		-		-		-		-		-	
Sulfate		-		-		-		-		-		-	
ortho-Phosphate		-		-		-		-		-		-	

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	UNITS:	MW5		MW5		MW6		GW1		GW2		GW1	
		PC-RT9-MW5-GW1 11/11/87	RESULT	QUAL	PC-RT9-MW5-GW2 08/21/88	RESULT	QUAL	PC-PW1-GW1 11/03/87	RESULT	QUAL	PC-PW1-GW2 08/18/88	RESULT	QUAL
8010													
1,2-Dichloroethane	ug/l	0	ND		0	ND		0	ND		0	ND	
1,2-trans-Dichloroethylene	ug/l	0	ND		0	ND		0	ND		0	ND	
Benzene	ug/l	-	0	ND	0	ND		-	ND		0	ND	
Bromodichloromethane	ug/l	0	ND		0	ND		0	ND		0	ND	
Chloroform	ug/l	0	ND		0	ND		0	ND		0	ND	
Ethylbenzene	ug/l	-	0	ND	0	ND		-	ND		0	ND	
Methyl chloride	ug/l	2.50	0	ND	0	ND		5.60	0	ND	0	ND	5.50
Methylene chloride	ug/l	0	ND		0	ND		0	ND		0	ND	
Tetrachloroethylene	ug/l	0	ND		0	ND		0	ND		0	ND	
Toluene	ug/l	-	0	ND	0	ND		-	ND		0	ND	
Trichloroethylene	ug/l	0	ND		0	ND		0	ND		0	ND	
8020													
Benzene	ug/l	0	ND		-	-		0	ND		-	0	ND
Toluene	ug/l	0	ND		-	-		0	ND		-	0	ND
625													
bis(2-Ethylhexyl)phthalate	ug/l	-	-		-	-		15	-		-	0	ND
CLP METALS													
Arsenic, Dissolved	ug/l	0	ND		-	-		5	ND		-	6	ND
Beryllium, Dissolved	ug/l	0	ND		-	-		0	ND		-	0	ND
Copper, Dissolved	ug/l	0	ND		-	-		0	ND		-	0	ND
Potassium	mg/l	-	-		-	-		-	-		-	-	-
Potassium, Dissolved	mg/l	-	-		-	-		0.88	-		-	0.62	-
Sodium	mg/l	-	-		-	-		-	-		-	-	-
Sodium, Dissolved	mg/l	-	-		-	-		96	-		-	230	-
Zinc, Dissolved	ug/l	7	-		-	-		0	ND		-	0	ND
TPH													
Total Petroleum Hydrocarbons	mg/l	0	ND		0	ND		0	ND		0	ND	0.10
E160.1													
Total Dissolved Solids	mg/l	330			300			1300			950	840	
E300.1													
Chloride	mg/l	-	-		-	-		480	ND		-	370	0.23
Fluoride	mg/l	-	-		-	-		0	0.82		-	0.20	-
Nitrate Nitrogen	mg/l	-	-		-	-		0	ND		-	0	ND
Nitrite Nitrogen	mg/l	-	-		-	-		17	ND		-	19	-
Sulfate	mg/l	-	-		-	-		0	ND		-	0	ND
ortho-Phosphate	mg/l	-	-		-	-		0	ND		-	0	ND

Appendix O: Groundwater Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:		GW2 PC-PW2-GW2 08/18/88		GW1 PC-PW3-GW1 11/03/87		GW2 PC-PW3-GW2 08/18/88		GW1 PC-PW4-GW1 11/03/87		GW1 PC-PW5-GW1 11/04/87		GW1 PC-PW6-GW1 11/04/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	1,2-Dichloroethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	1,2-trans-Dichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Benzene	0	ND	-	ND	0	ND	-	ND	-	ND	-	ND
	Bromodichloromethane	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Chloroform	0	ND	1.70	ND	0	ND	0	ND	0	ND	0	ND
	Ethylbenzene	0	ND	-	ND	0	ND	-	ND	-	ND	-	ND
	Methyl chloride	0	ND	5.50	ND	0	ND	4.30	ND	9	ND	6.30	ND
	Methylene chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Tetrachloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
	Toluene	0	ND	-	ND	0	ND	-	ND	-	ND	-	ND
	Trichloroethylene	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
8020	Benzene	-	ND	0	ND	-	ND	0	ND	0	ND	0	ND
	Toluene	-	ND	0	ND	-	ND	0	ND	0	ND	0	ND
625	bis(2-Ethylhexyl)phthalate	-	ND	0	ND	-	ND	49	ND	0	ND	0	ND
CLP METALS													
	Arsenic, Dissolved	-	ND	0	ND	-	ND	0	ND	0	ND	0	ND
	Beryllium, Dissolved	-	ND	0	ND	-	ND	0.30	ND	0	ND	0	ND
	Copper, Dissolved	-	ND	0	ND	-	ND	0	ND	0	ND	0	ND
	Potassium	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Potassium, Dissolved	-	ND	2	ND	-	ND	0.46	ND	0.77	ND	0.71	ND
	Sodium	-	ND	-	ND	-	ND	-	ND	-	ND	-	ND
	Sodium, Dissolved	-	ND	7.90	ND	-	ND	6.70	ND	39	ND	0.64	ND
	Zinc, Dissolved	-	ND	160	ND	-	ND	2	ND	37	ND	39	ND
TPH	Total Petroleum Hydrocarbons	0	ND	0	ND	0	ND	0.10	ND	0.29	ND	0.10	ND
E160.1	Total Dissolved Solids	1500	ND	160	ND	200	ND	120	ND	137	ND	119	ND
E300.1	Chloride	-	ND	19	ND	-	ND	2.40	ND	1.90	ND	0.84	ND
	Fluoride	-	ND	0	ND	-	ND	0.69	ND	1.40	ND	0.04	ND
	Nitrate Nitrogen	-	ND	2.20	ND	-	ND	0	ND	0.27	ND	0	ND
	Nitrite Nitrogen	-	ND	0.13	ND	-	ND	0	ND	0	ND	0	ND
	Sulfate	-	ND	13	ND	-	ND	4.80	ND	18	ND	17	ND
	ortho-Phosphate	-	ND	0	ND	-	ND	0	ND	0	ND	0	ND

Appendix O: Sediment Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SD1		SD2		SD3		SD4		SD5		SD1	
SAMPLE ID:		PC-MP2-SD1		PC-MP2-SD2		PC-MP2-SD3		PC-MP2-SD4		PC-MP2-SD5		PC-TF4-SD1	
COLLECTION DATE:		09/30/87		09/30/87		09/30/87		09/30/87		09/30/87		09/30/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Toluene													
625	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
CLP METALS													
Arsenic, Dissolved	mg/kg	1		0.15		0.55		1.40		0.29		0.95	
Beryllium, Dissolved	mg/kg	0.05		0.06		0.26		0.06		0.05		0.08	
Cadmium, Dissolved	mg/kg	0.87		0	ND	0.76		0	ND	0	ND	0.03	
Chromium, Dissolved	mg/kg	2.80		1.60		4.50		1.50		1.30		3.50	
Copper, Dissolved	mg/kg	5		1.40		5.10		0.85		0.91		1.60	
Lead, Dissolved	mg/kg	29		5.60		48		0.98		0.85		2.50	
Nickel, Dissolved	mg/kg	2.50		2.20		3.80		1.60		1.50		2.70	
Selenium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Thallium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
Zinc, Dissolved	mg/kg	33		110		150		15		2.40		4.30	
TPH													
Total Petroleum Hydrocarbons	mg/kg	460		23		59		9.70		0		16	

Appendix O: Sediment Analytical Results
Alpena CRTC, Alpena, MI

LOCATOR:		SD2		SD3		SD4		SD5		SD6		SD9	
SAMPLE ID:		PC-TF4-SD2		PC-TF4-SD3		PC-TF4-SD4		PC-TF4-SD5		PC-TF4-SD6		PC-TF4-SD9	
COLLECTION DATE:		09/30/87		09/30/87		09/30/87		09/30/87		09/30/87		11/12/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND	96	
Toluene													
625	mg/kg	-		-		-		-		-		1	
Di-n-octyl phthalate	mg/kg	-		-		-		-		-		120	
bis(2-Ethylhexyl)phthalate													
CLP METALS													
Arsenic, Dissolved	mg/kg	2.10		1.70		0.50		1.20		5.90		11	
Beryllium, Dissolved	mg/kg	0.07		0.18		0.18		0.44		0.51		0.60	
Cadmium, Dissolved	mg/kg	0.01		0.01		0.04		0.28		0.57		0.19	
Chromium, Dissolved	mg/kg	9.20		3.90		3.70		13		16		25	
Copper, Dissolved	mg/kg	1.30		1.30		1.80		7.20		12		19	
Lead, Dissolved	mg/kg	1.40		2.70		3.50		0.20		23		21	
Nickel, Dissolved	mg/kg	5.30		2.10		2.70		6.70		9.20		11	
Selenium, Dissolved	mg/kg	0	ND	0.22		0.28		0.38		0.38		0	ND
Thallium, Dissolved	mg/kg	0	ND	0.34		0.26		0.15		0.29		0	ND
Zinc, Dissolved	mg/kg	5.60		3.40		6.30		26		44		44	
TPH													
Total Petroleum Hydrocarbons	mg/kg	21		15		230		250		560		4100	

Appendix O: Sediment Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SP7		SP8		SD1		SD2		SD3	
SAMPLE ID:		PC-TF4-SP7-SD1		PC-TF4-SP8-SD1		PC-LF6-SD1		PC-LF6-SD2		PC-LF6-SD3	
COLLECTION DATE:		10/19/87		10/19/87		10/01/87		10/01/87		10/01/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8020	ug/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Toluene											
625	mg/kg	0	ND	0	ND	0.59		0	ND	0	ND
Di-n-octyl phthalate	mg/kg	0	ND	0	ND	170		0	ND	0	ND
bis(2-Ethylhexyl)phthalate											
CLP METALS											
Arsenic, Dissolved	mg/kg	0.71		3.80		1.20		0.95		1.40	
Beryllium, Dissolved	mg/kg	0.06		0.05		0.20		0.25		0.08	
Cadmium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Chromium, Dissolved	mg/kg	3.90		2.80		2.60		4.30		3.20	
Copper, Dissolved	mg/kg	0.79		0.67		1.20		2		1.20	
Lead, Dissolved	mg/kg	1		0.71		5.20		6.40		1.80	
Nickel, Dissolved	mg/kg	1.70		0	ND	2.10		3.10		2.40	
Selenium, Dissolved	mg/kg	1		0.71		1.20		0	ND	0	ND
Thallium, Dissolved	mg/kg	0	ND	0	ND	0	ND	0	ND	0	ND
Zinc, Dissolved	mg/kg	2.70		1.70		4.80		10		4.20	
TPH											
Total Petroleum Hydrocarbons	mg/kg	33		35		14		9.60		9.60	

Appendix O: Surface Water Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SW1 PC-MP2-SW1 10/22/87		SW4 PC-MP2-SW4 10/22/87		SW5 PC-MP2-SW5 10/22/87		SP1 PC-TF4-SW1-SW1 10/16/87		SP1 PC-TF4-SW1-SW2 08/14/88		SP1A PC-TF4-SW1A-SW2 08/21/88	
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
Methyl chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
CLP METALS												
Chromium, Dissolved	0	ND	0	ND	0	ND	0	ND	-	-	-	-
Copper, Dissolved	0	ND	0	ND	0	ND	0	ND	-	-	-	-
Potassium	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, Dissolved	-	-	-	-	-	-	3.20	-	-	-	-	-
Sodium	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, Dissolved	-	-	-	-	-	-	39	-	-	-	-	-
Zinc, Dissolved	10	-	3	-	4	-	2	-	-	-	-	-
TPH												
Total Petroleum Hydrocarbons	2.20		0	ND	0	ND	0.10		0	ND	0	ND
E160.1												
Total Dissolved Solids	65		240		85		1000		250		250	
E300.1												
Chloride	-		-		-		110		-		-	
Fluoride	-		-		-		0.10		-		-	
Nitrate Nitrogen	-		-		-		1.90		-		-	
Nitrite Nitrogen	-		-		-		0	ND	-		-	
Sulfate	-		-		-		17		-		-	
ortho-Phosphate	-		-		-		0.09		-		-	

Appendix O: Surface Water Analytical Results Alpena CRTC, Alpena, MI

LOCATOR: SAMPLE ID: COLLECTION DATE:	SP2		SP2		SP3		SP3		SP4		SP7	
	PC-TF4-SP2-SW1	10/16/87	PC-TF4-SP2-SW2	08/14/88	PC-TF4-SP3-SW1	10/16/87	PC-TF4-SP3-SW3	08/14/88	PC-TF4-SP4-SW2	08/22/88	PC-TF4-SP7-SW1	10/19/87
UNITS:	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010												
Methyl chloride	0	ND	0	ND	0	ND	0	ND	0	ND	0	ND
CLP METALS												
Chromium, Dissolved	0	ND	-	-	0	ND	-	-	-	-	0	ND
Copper, Dissolved	6	-	-	-	0	ND	-	-	-	-	0	ND
Potassium	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, Dissolved	0.67	-	-	-	0.54	-	-	-	-	-	-	-
Sodium	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, Dissolved	1.30	-	-	-	1.20	-	-	-	-	-	-	-
Zinc, Dissolved	8	-	-	-	2	-	-	-	-	-	8	-
TPH												
Total Petroleum Hydrocarbons	0.20	-	0	ND	0.20	-	0	ND	0	ND	0	ND
E160.1												
Total Dissolved Solids	432	-	210	-	388	-	190	-	260	-	270	-
E300.1												
Chloride	0.60	-	-	-	0.40	-	-	-	-	-	2.20	-
Fluoride	0	ND	-	-	0	ND	-	-	-	-	0	ND
Nitrate Nitrogen	2.30	-	-	-	0.94	-	-	-	-	-	0	ND
Nitrite Nitrogen	0	ND	-	-	0	ND	-	-	-	-	0	ND
Sulfate	12	-	-	-	9.90	-	-	-	-	-	33	-
ortho-Phosphate	0	ND	-	-	0	ND	-	-	-	-	0	ND

Appendix O: Surface Water Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SP7	SP8		SP8		SW10		SW10		SW4		
SAMPLE ID:		PC-TF4-SP7-SW2	PC-TF4-SP8-SW1		PC-TF4-SP8-SW2		PC-TF4-SW10		PC-TF4-SW10-SW2		PC-TF4-SW4		
COLLECTION DATE:		08/21/88	10/19/87		08/21/88		11/12/87		08/12/88		10/16/87		
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	ug/l	0	ND	0	ND	0	ND	5.80	0	0	ND	0	ND
Methyl chloride													
CLP METALS													
	ug/l	-		0	ND	-		10	-	-		0	ND
	ug/l	-		0	ND	-		7	-	-		0	ND
	mg/l	-		-		-		0.52	-	-		-	
	mg/l	-		-		-		-	-	-		-	
	mg/l	-		-		-		4.40	-	-		-	
	mg/l	-		-		-		-	-	-		-	
	ug/l	-		3		-		5	-	-		2	
Zinc, Dissolved													
TPH													
	mg/l	0	ND	0	ND	0	ND	0	ND	0	ND	0.56	
Total Petroleum Hydrocarbons													
E160.1	mg/l	320		260		260		240		230		563	
Total Dissolved Solids													
E300.1	mg/l	-		18		-		22		-		-	
	Chloride	-		0	ND	-		0	ND	-		-	
	Fluoride	-		0.16		-		1		-		-	
	Nitrate Nitrogen	-		0	ND	-		0	ND	-		-	
	Nitrite Nitrogen	-		24		-		15		-		-	
	Sulfate	-		0	ND	-		0	ND	-		-	
	ortho-Phosphate	-				-				-		-	

Appendix O: Surface Water Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SW5		SW6		SW6		SW9		SW9		SW1	
SAMPLE ID:		PC-TF4-SW5		PC-TF4-SW6		PC-TF4-SW6-SW2		PC-TF4-SW9		PC-TF4-SW9-SW2		PC-LF6-SW1	
COLLECTION DATE:		10/16/87		10/16/87		08/16/88		11/12/87		08/12/88		10/15/87	
UNITS:		RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL	RESULT	QUAL
8010	Methyl chloride	0	ND	0	ND	0	ND	4.70	0	0	ND	0	ND
CLP METALS													
	Chromium, Dissolved	0	ND	0	ND	-	-	10	-	-	-	0	ND
	Copper, Dissolved	0	ND	0	ND	-	-	8	-	-	-	0	ND
	Potassium	-	-	-	-	-	-	0.55	-	-	-	-	-
	Potassium, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
	Sodium	-	-	-	-	-	-	4.50	-	-	-	-	-
	Sodium, Dissolved	-	-	-	-	-	-	-	-	-	-	-	-
	Zinc, Dissolved	3	-	3	-	-	-	4	-	-	-	0	ND
TPH													
	Total Petroleum Hydrocarbons	0.95	-	0.20	-	0	ND	0	ND	0	ND	0.20	-
EI60.1													
	Total Dissolved Solids	514	-	413	-	190	-	240	-	240	-	230	-
E300.1													
	Chloride	-	-	-	-	-	-	24	-	-	-	9	-
	Fluoride	-	-	-	-	-	-	0	ND	-	-	0.27	-
	Nitrate Nitrogen	-	-	-	-	-	-	1	-	-	-	0	ND
	Nitrite Nitrogen	-	-	-	-	-	-	-	ND	-	-	0	ND
	Sulfate	-	-	-	-	-	-	16	-	-	-	13	-
	ortho-Phosphate	-	-	-	-	-	-	0	ND	-	-	0	ND

Appendix O: Surface Water Analytical Results Alpena CRTC, Alpena, MI

LOCATOR:		SW2	SW3
SAMPLE ID:		PC-LFG-SW2	PC-LFG-SW3
COLLECTION DATE:		10/15/87	10/15/87
UNITS:		RESULT	QUAL
8010			
Methyl chloride	ug/l	0	ND
CLP METALS			
Chromium, Dissolved	ug/l	0	ND
Copper, Dissolved	ug/l	0	ND
Potassium	mg/l	-	-
Potassium, Dissolved	mg/l	-	-
Sodium	mg/l	-	-
Sodium, Dissolved	mg/l	-	-
Zinc, Dissolved	ug/l	0	3
TPH			
Total Petroleum Hydrocarbons	mg/l	0.10	0.20
E160.1			
Total Dissolved Solids	mg/l	220	190
E300.1			
Chloride	mg/l	8.60	9.40
Fluoride	mg/l	0.22	0.29
Nitrate Nitrogen	mg/l	0	ND
Nitrite Nitrogen	mg/l	0	0.05
Sulfate	mg/l	7.80	13
ortho-Phosphate	mg/l	0	0

1993 ABBREVIATED SI DATA

Data Summary Table: Soils Site 1 POL Storage Area

Sample Number:	P01B010001	P01B010203	P01B010203D *	P01B020001
Site:	PC-01	PC-01	PC-01	PC-01
Locator:	SB01	SB01	SB01	SB02
Depth (ft):	0 to 1	2 to 3	2 to 3	0 to 1
Date Sampled:	Nov-13-92	Nov-13-92	Nov-13-92	Nov-13-92
Laboratory:	CompuChem	CompuChem	CompuChem	CompuChem
Associated	EB-2 , P-TB5	EB-2 , P-TB5	EB-2 , P-TB5	EB-2 , P-TB5
QC Samples:	PB1,PB2	PB1,PB2	PB1,PB2	PB1,PB2
	Result Q	Result Q	Result Q	Result Q
				Cleanup
				Levels**

Method: 418.100, MG/KG

На

2220

18.5

Method: 8010.UG/KG

1,1,1,2-Tetrachloroethane
1,2-Dichloroethane
1,4-Dichlorobenzene
Dibromomethane
Tetrachloroethene
Trichloroethene

Method: 8020, ug/kg

1, 2-Dimethylbenzene
1, 4-Dichlorobenzene
Benzene
Chlorobenzene
Ethylbenzene
Styrene

Act 307 Type B cleanup levels

* - dilution run for 8020 compounds only

U - Not detected. Value listed is detection limit.

B - Not detected. Compound found in blank samples.

Y - Concentration is estimated.

Z - Compound not confirmed on 8010 analyses.

E - Concentration exceeds calibration range.

MIANG, Alpena CRTC, Alpena County Regional Airport, Alpena, Michigan

Sample Number:
Site:
Locator:
Depth (ft):
Date Sampled:
Laboratory:
Associated
QC Samples:

PC-01
SB02
3 to 5
Nov-13-92
CompuChem
EB-2 , P-TB
PB1,PB2
Result Q

PC-01
SB03
1 to 3
Nov-13-92
CompuChem
EB-2 , P-TB
FB1,FB2
Result Q

PC-01
SB03
5 to 7
5 to 7
CompuChem
EB-2 , P-TB
FB1,FB2
Result Q

Method: 418.100, (MG/KG)
TPH

40.4

28-9

Method: 8010, (UG/KG)

.96	UJ
.69	UJ
1.5	UJ
.96	UJ
.85	UJ
.85	UJ

.23	J
.43	J
.8	J
.95	J
.63	J
.64	J

20 8 20 00 14 60

Method:	8020, (UG/KG)
1,2-Dimethylbenzene	
1,4-Dichlorobenzene	
Benzene	
Chlorobenzene	
Ethylbenzene	
Styrene	

1.3	UJ
1.9	UJ
1.5	UJ
1.9	UJ
1.9	UJ
1.6	UJ

1.3	U				
2.6		U			
1.6			U		
	2			U	
		2			U
1.7					U

00 20 20 00 00 20

*** Act 307 Type B cleanup levels

U - Non detect. Value listed is detection level.

U - Non detect. Value listed in detection is zero.

B - Non detect. Compound was found in the blank.

J - Concentration is estimated.

E - Compound exceeds calibration range.

Z - Compound not confirmed on 8010 analyses.

II - Concentration is between the CRDL and the IDL.

[[] - Concentration is between the CKDL and the IDL